Gleanings in Bee Culture

Established 1873

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Subscription Rates—United States and Canada, one year, $1.00; two years for $1.50; three years for $2.00. Single copy, 10 cents. Other countries, 25c per year additional for postage. Discontinuance—Subscription stopped on expiration. No subscriber will be run into debt by us for this journal. Change of address—Give your old address as well as the new and write the name to which the journal has heretofore been addressed. Remittance should be sent by postoffice money order, bank draft, express money order or check. Contribution to Gleanings columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. Advertising Rates—Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. Advertisers' Reliability—While the publishers do not guarantee advertisements in this journal, they use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.

Entered as second class mail matter at the Postoffice at Medina, Ohio. Published monthly.

The A. I. Root Company, Publishers, Medina, Ohio

E. R. Root and M. J. Deyell, Editors; M. W. Hobart, Assistant Editor; H. H. Root, Associate Editor; D. C. Babcock, Circulation Manager.

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The Monthly Honey Market

U. S. GOVERNMENT REPORT
Information from Producing Areas (First Half of August).

California Points

Southern California. The weather has been warm and dry, with occasional fogs in the morning. This has been favorable for lima beans, which have yielded more nectar than normal, and also favorable for sumac and toyon in the hill areas. A medium yield is reported from toyon, and a light flow from sumac. Alfalfa in the Antelope Valley is also furnishing some nectar. Eucalyptus is yielding lightly. In the cultivated areas plants are generally in good condition, but plants in hill areas are dormant. Pollen is getting short, and brood-rearing is slowing down. In the southern part of the area because of prevailing warm weather a larger amount was extracted than was anticipated six weeks ago. Pollen is still being gathered in abundance in that section, and a little nectar is still being obtained from turpentine weed, broom brush, wild buckwheat, turkey mullein, sumac and a few other minor plants. Many old combs are being melted up into wax. Bees are working on athel in the Riverside County desert area. Amber grades of honey were in moderate to fairly good demand during the first half of August, but white grades of honey were in slow to moderate demand. Prices paid beekeepers were firm to slightly stronger on all grades, with many beekeepers holding their stocks of honey firmly. Sales by beekeepers in ton lots or more, per case of 120 pounds, at Southern California delivery points — Orange, Extra White, mostly $13.20; White, $12.60-$13.20, Extra Light Amber $11.25-$11.50; White to Extra White Sage, few small lots $13.50; Light amber to Extra Light Amber Sage — Buckwheat $11.40-$12.00; Light Amber to Extra Light Amber Mixed Flowers $10.80-$11.25; Blythe District, Light Amber to Extra Light Amber Alfalfa $10.60-$11.00, mostly $10.75-$11.00. The beeswax market is steady, with beekeepers receiving 40-41c per lb. delivered LosAngeles

Imperial Valley. Honey production is nearly over and brood-rearing is on the decline. Tamarack is about the only plant from which nectar is still being obtained. Extracting of the Alfalfa crop is about over. The Alfalfa honey is reported heavy in body, and the yield is reported to range 60 to 100 pounds per colony. Sales reported Light Amber to Extra Light Amber Alfalfa at $10.75 to 11.25 per case of 120 pounds, f. o. b. shipping point.

Central California. — Moving colonies from sage-buckwheat locations to cotton alfalfa and various weed areas is about over. Where left alone on sage-buckwheat many colonies have run down badly, and average colonies may not be over 50 percent of normal. The flow from cotton and alfalfa has been good, but now butterflies are reported ruining the alfalfa bloom in some sections. Spikeweed, Jack clover, and blue curl are yielding poorly, with little prospect for a surplus from these sources. Cover has been yielding 2½-4 pounds a day in the Owens Valley. The buckwheat crop in Owens Valley, however, is extremely short and probably averages less than 10 pounds to the colony. A good flow is on from chinquapin oak in the Sierras. Demand for new crop honey has been light to moderate .Offerings of honey are very light for this season of the year and consist mostly of the Amber grades. The movement of honey into retail channels has slowed up considerably as a result of present price and marketing conditions. Sales by beekeepers in ton lots or more, delivered Bay Cities, per lb. - White Orange 11-12½c; White to Extra White Sage 11-13c; Light Amber to Extra Light Amber Alfalfa 9-9½; Light Amber Alfalfa-Sage, 9½c; Light Amber Orange-Bean, 11c; Light Amber to Extra Light Amber Mixed Flowers, 9-10c; Extra Light Amber Vetch, 10½c; Extra Light Amber Mountain Flowers, 10½c. Sales delivered Los Angeles: Light Amber to Extra Light Amber Mixed Flowers, 9-10c. Beeswax has been in good demand, with prices to beekeepers mostly 40-41c, some small lots high as 43c per pound delivered Bay Cities.

Northern California. Thistle plants have been yielding a little but not as much as last year at this season. As the season progresses the nectar-gathering condition is getting worse, and beekeepers are not hopeful of having much surplus Thistle honey. Many colonies are in poor condition. Ants are reported ruining some colonies.-a most unusual situation. Over-stocking of Thistle ranges by bees from Southern California has aided in lessening the yield of surplus honey. Sales by beekeepers in ton lots or more, per lb., delivered Bay Cities—Light Amber Mixed Flowers, 8½-9c; delivered interior valley points—Light Amber to Extra Light Amber Manzanita, 8-8½c; White Thorn, Light Amber, 6½c, Amber, 6c per lb. Beeswax, 40c per lb. delivered Interior Valley points.

Colorado: Bees are still gathering nectar from second cutting of alfalfa. It appears that the crop will be larger than that of last year and some beekeepers in various parts of the state are expecting a bumper crop.

Wyoming: The state as a whole is reported getting a normal or larger crop, but reports vary widely in different parts.

SUMMARY

The size of the 1942 honey crop is still uncertain. The past two weeks have seen gains in the Intermountain Region, in portions of the Plains States and in part of the White Clover Belt. Rainy, cloudy, cool weather has cut short the anticipated yield in other portions of these sections, especially in the White Clover and Sweetclover areas. Much depends upon the extent to which bees can work on heartsease, Spanish needle, buckwheat, goldenrod, aster, and other late plants. There is no question, however, but what many millions of pounds of honey were not gathered because bees

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were confined to hives or because they had not built up to active strength when nectar was in the blossoms. Most reports indicate that this year's crop of honey is lighter in color than usual. The body ranges light to heavy in different areas.

Local demand for honey has been exceptionally brisk, and many beekeepers who formerly sold their honey at wholesale are finding sufficient demand from nearby consumers and stores to take care of their crops. Because of the present shortage of containers, and the anticipated greater shortage, many beekeepers are requesting customers to bring their own containers. Sales for mail and freight delivery are often supplanting previous sales for truck delivery because of difficulty of getting both trucks and tires.

Prices of honey differ rather widely because of varying price ceilings in March, but most of the sales of White honey in ton lots or more made during this period have apparently averaged around 10-12c per lb. at shipping points. Comb honey, which went up only slightly when extracted honey spiraled so rapidly early in the year, is now substantially higher than it was last year or even early in 1942, with wide price ranges quoted by different beekeepers. Beeswax prices show little change and range 40-42c per lb. in most sections.

On August 10 the Office of Price Administration held a meeting in Washington to which beekeepers and honey packers were invited, to discuss suitable formulas for "puncturing the ceiling" for extracted honey, in different containers and at various sales levels. When announced the new OPA ceilings on honey will supercede the General Maximum Price Regulation now in effect for extracted honey when sold by beekeepers whose sales or deliveries exceed $75.00 worth a month, but the exact date of issuance of this report is uncertain. Beeswax ceiling regulations developed following the August 1 OPA meeting in New York City, with producers, dealers, and importers of beeswax, have not yet been announced.

Monthly Report of Honey Producers

Early in August we sent the following questions to honey producers: 1. How does the honey flow (if any) thus far compare with normal? Give answer in per cent. 2. What is your estimate at this time of the 1942 honey crop in your region as compared with the average during the past five years? Give answer in per cent. 3. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound (b) comb honey, fancy, and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy, and No. 1, per case? 5. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? 6. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. 7. Is there any of last year's honey left in the hands of producers in your locality? If so, what per cent of last year's crop was carried over? The answers received are tabulated as follows:

August date.	State	Name	1. Honey flow	1942 crop	3. Large lots Ex.	Comb	4 To grocers Ex.	Comb.	5. Ext'd To Consumers	6. Movement.	7. 1941 carry-over.
10	B. C.	A. W. Findlay			.13		.90		1.20	Rapid	0
10	S-Calif.	L. L. Andrews	5	20	.11				.95	Fair	0
11	C-Calif.	Davis Bros.	100	100	.10				.85	Fair	0
7	SE-Colo.	(Otis E. Adcock)	50	50	.10		.65	0	.80	Rapid	0
6	E-Conn.	(Allen Latham)	150	200			.75	5.00	1.00	Fair	0
7	S-Fla.	(C. C. Cook)	60	60	.08		.60		.80	Rapid	0
17	C-Fla.	(Harry Hewitt)	75	80			.68		.80	Slow	0
10	NC-Ills.	(A. L. Kildow)	35	40					.75	0	0
5	NC-Ind.	(T. C. Johnson)	50	75			.65		.80	Fair	0
7	NW-Ind.	(E. S. Miller)	40	50			.75	3.60	.85	Fair	0
10	C-Md.	(S. G. Crocker)	30	40	.08		.80	3.60	1.00	Fair	0
7	E-Mich.	(L. S. Griggs)	20	20	.12				1.00	Rapid	0
18	N-Mich.	(Ira D. Bartlett)	80	100	.12		.75		1.00	Rapid	0
11	C-Mich	E. D. Townsend	50	50	.14					Fair	0
7	S-Mich.	(Floyd Markham)	50	50	.12		.75	4.00	1.00	Rapid	0
10	SW-Minn.	(L. A. Syverud)	80	90			.78		1.04	Fair	0
11	W-Minn.	(H. L. Morehouse)	95	90	.12		.83		1.00	Fair	0
10	S-Minn.	J. F. Garner	90	90	.10½	3.60	.70	$4.00	.90	Fair	0
11	C-Nebr.	(J. H. Wagner)	80	100				3.00	.79	Slow	0
10	W-Nev.	(Geo. G. Schwis)	50				.75		1.12	Fair	0
8	NW-N. Y.	(Geo. B. Howe)	75	75	.10	3.50	.70	3.60	.78	Fair	5
4	C-N. Y.	(F. W. Lesser)	40	40	.13					Rapid	
6	SE-N. C.	(W. J. Martin)	100	105	.08½		.75		.95	Fair	0
10	NC-Okla.	(C. F. Stiles)	80	80			.60		.90	Fair	0
13	C-Penn.	(Harry Beaver)	30				.70		.80	Rapid	0
5	SE-Penn.	(D. C. Gilham)	40	75			.80	4.25	1.10	Fair	5
10	SE-S. D.	(J. F. Norgren)	110	110			.79		.95	Fair	0
5	C-Tenn.	(J. M. Buchanan)	50	50					1.00	Fair	0
6	E-Tenn.	(W. L. Walling)	10	10					1.00	Fair	0
7	C-Texas	(T. A. Bowden)	25	25			.60		.75	Rapid	0
6	S-Texas	(J. N. Mayes)		25	.08		.45		.50	Rapid	0
6	S-Texas	(H. B. Parks)	100	110			.45		.58	Rapid	0
6	N-Utah	(Wm. Moran)	80	80	.10¼				.90	Slow	2
7	W-Vt.	(Phillip Crane)	100	100			.90	4.50	1.12	Rapid	0
10	S-Va.	(T. C. Asher)	90	95			.75	4.25	.90	Fair	0
19	SE-Wisc.	(N. E. France)	50		.09				.60	Fair	0
7	N-Wyo.	(Earl C. Reed)	50	75			.75		.89	Fair	0

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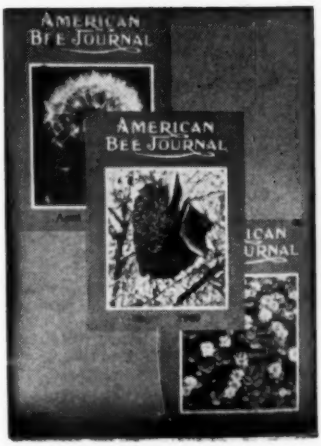

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Vol. 70
No. 9

Gleanings in Bee Culture

September
1942

The Top Entrance - Is It a Fad?

By John Conner

There is an increasing interest on the part of a large number of beekeepers to become more familiar with the principles, the merits and demerits of top entrance beekeeping. Can this idea, if applied, result in any practical benefit or is it a passing fancy, is a question that many others are asking. Because I have, for a number of years, studied the top entrance and inasmuch as I have previously collected, arranged, and presented some of the factors concerned with this subject it would seem only fitting and proper that I should follow this by a review of some of the evidence to determine whether or not the whole idea is but a fad.

In any consideration of the matter two things should constantly be kept in mind. The first is that basically the whole subject is only in the very early stages of development so each beekeeper should treat it as a research problem rather than a proven practical success. The second is that the top entrance can immediately be classified into two general types; one for summer, the other for winter use. This is very important to remember.

For summer use in honey production the least amount of experimental work has been done and the least amount is known about the top entrance and its working characteristics. There are numerous factors involved (in addition to the entrance device proper) such as size and shape of combs and hive, the relationship of these and the storage space to the entrance and the size and position of the clustering chamber. When this direction of experiment has been explored more thoroughly it might result in some quite unconventional hive construction although just adapting the top entrance to the present standard hive has resulted in honey being gathered with less manipulations. The weather, nature and number of honey flows, type of entrance construction and other factors all contribute to the success or failure of this use.

There are now sound reasons for believing the top entrance has possibilities as a swarm control measure and as a means of producing honey with less work when we fully comply with all of the principles involved. The physics are sound and although unconventional are very far removed from any faddist concept.

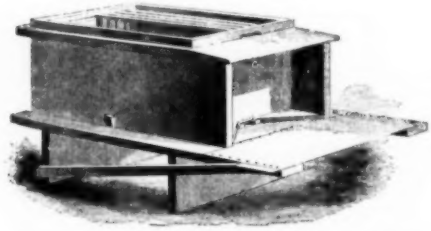
It is with top entrance for winter use that the most has been done and it is in this direction that the greatest development is to occur soonest. Contrary to popular belief this is no recent discovery or new idea. Beekeepers have been using hives with this characteristic for hundreds of years in many countries and in hives of various types from straw skeps to log gums and box hives.

Passing over the early period we can begin with Langstroth. His hive as described by him in his book was provided with a small top entrance and he advised its use in preference to the lower one for wintering out of doors. Although this was explained and illustrated in detail therein very little importance seems to have been attached to it. When his hive became an article of commerce all of the frills were eliminated in the process of simplification for mass production. This same trend was to be noted also in the revision of his book. In this way the top entrance for wintering was excluded from

thought and practice wherever modern beekeeping advanced.

One of the advantages of the top entrance is its ability to keep the hive interior dry at all times **regardless of temperature.** Even though the top entrance, as Langstroth advised it, was forgotten, a very closely related practice has been evolved and is in general use. This, in one form or another has been known as upward ventilation (one form of which is the familiar auxiliary flight hole in the brood nest). Some expedient was so often necessary to eliminate the humid air in the upper part of the hive interior (when the entrance is below and the hive is tight) that the practice had to survive. This applies to hives under a wide variety of conditions and includes hives packed as well as unpacked.

It must be remembered that packing a bottom entrance hive does not eliminate the humid air, it only helps to keep the interior warm enough to prevent condensation of this humid air. Under some conditions with the bottom entrance (such



Upper or winter entrance.—Engraving reproduced from "Langstroth on the Honeybee," Third Edition.

as unsealed inner covers) small leaks can allow moisture-laden air to escape into the packing itself until a point is reached where condensation occurs (within the packing) rendering its insulating value useless. For some unexplained reason this fault has usually been charged directly against packing which in all fairness must be admitted to be incorrect for in fact it is directly caused by entrance location. The trend of thinking, also, has been very largely along the lines of packing vs. top entrance for wintering. There seems to be an impression that there must be a choice of one or the other; opposition rather than conjunction. Actually there is no basis for comparison of the two and this attitude will go when it is more widely understood that the two can be combined if desired so that the benefits that each give can be secured.

Individuals working with the top entrance are growing in numbers. They range all the way from the Atlantic to the Pacific and well up into Canada. This truly represents a wide variety of conditions. For the most part there is agreement that the principle is right. It has definitely been established that a colony will not perish by loss of heat because of the entrance at the top as once claimed by many. In fact it is quite possible that the reverse is true and that with a properly designed and packed top entrance (bottom tightly closed) the heat loss may be at a minimum. These workers have found the question of winter hive humidity to be of the greatest importance in wintering success and also that this is an unexplored field. It comes almost as a shock to many older beekeepers to learn that numerous beekeepers are now closing the bottom tightly and are supplying some form of top entrance for winter. That this idea really works and is gaining in popularity in some of the colder localities is also a surprise although occasionally an inkling of this trend appears in print. The really amazing thing about the whole matter is the high percentage of good reports and extravagant claims made when so many of the types of construction used, although satisfactory, are still very inefficient. This only seems to put emphasis on the inherent soundness of the basic working principle.

One of the most important benefits to be credited to this subject is the fact that it is causing beekeepers to think. This thinking will go on and experimenting will continue with the result that a great deal of practical knowledge will be gained. Indications are that a lot of our present opinions are to be revised considerably and it is almost certain that the top entrance idea will have an important application in the North. Of one thing we can be certain and that is the subject is out in the open where it can be freely discussed. Only a few short years ago it required a brave man to mention the subject in public while today it takes a courageous person to call it a fad. That at least is progress. What do you think?

Caldwell, N. J.

(Bibliography on page 572)

Morale in the Honeybee Colony[1]

By O. W. Park

The term "colony morale" was coined by the late George S. Demuth. Dr. Phillips, with no intent to disparage the originator, I'm sure, has referred to it as "a poor term for an important idea." But whether the term is good or bad, if it represents an important idea, perhaps we may do well to use it for lack of a better one.

But what important idea is represented by the term "colony morale"? As I understand it, Demuth used it to describe what might be referred to as the mass psychology of the colony with reference to its zeal, or lack thereof, in forging ahead with such tasks as the rearing of brood and the accumulation of stores.

We recognize that high morale in a football squad is of the greatest importance to a successful season. It is no less important to a successful season in the apiary, but a colony of bees would not be moved in the least by the most forceful "pep" talk that ever transformed a squad of quitters into a team of victors.

This is merely to point out what we have been told repeatedly, but continually forget: the fact that the honeybee is largely a creature of instinct. Its responses to the various factors of its environment are, therefore, largely of a machine-like nature. Aside from a limited number of reactions which give some evidences of adaptation, association, memory and learning, the honeybee responds in a given way to a given change in its environment. It never has and, presumably, never can be domesticated or made to do man's bidding, as have various other animals. Since man cannot mold the nature of the bee to his will, his profit from her labors will depend upon his ability to adjust his methods to her ways, and not vice versa.

Colony morale—high or low—is determined by the response of the colony to the various factors of its environment. Any failure of the apiarist to control and adjust the various factors of colony environment in conformity with the laws of bee behavior tends to lower colony morale; whereas, every manipulation performed in accordance with the normal activities of the colony tends to heighten it.

But how is the beekeeper to know when he is violating one or another of the numerous laws of bee behavior? That he can know only by possessing a broad and deep knowledge of bee behavior. How can such knowledge be gained? By wide reading on subjects coupled with close observations on the bees themselves. Unfortunately there is no single source for such information. It is widely scattered through the literature.

Langstroth, Quinby, A. I. Root, Doolittle, and C. C. Miller were outstanding students of bee behavior and their writings abound with records of their observations. It is of interest to note that these same men were the practical beekeepers who laid the foundation which today supports the superstructure of modern beekeeping in America.

Years ago beekeepers in general gave much attention to the study of bee behavior, but in recent times the subject appears to have been largely forsaken by honey producers, who attempt to follow "rule of thumb" methods which are bound to result in indifferent success if not failure unless they know also the whys and wherefores as related to bee behavior and the maintenance of colony morale.

Dr. Phillips has aptly stated that the beekeeper should invest one part of money and nine parts of brains in his business. If he leaves out the major investment, failure often follows because he lacks the knowledge of bee behavior which would have enabled him to keep colony morale at a high level throughout the season.

Beekeepers in general appear to have lost interest in the once popular, and still profitable study of bee behavior. I am convinced that Mr. Average Beekeeper is making a costly mistake when he overlooks the benefits to be derived from a thorough knowledge of bee behavior. Benefits arise in two ways: through maintenance of improved colony morale and through a distinct heightening of the morale of the bee-

[1] Journal Paper No. J-969 of the Iowa Agricultural Experiment Station, Ames, Iowa. Project No. 414.

keeper himself. The latter is due to the fact that apiary management then becomes an interesting game instead of routine drudgery.

As a further incentive to the study of bee behavior, I shall bring to your attention briefly a number of phases of this subject that deserve to be better known than they are today.

Division of Labor

Division of labor in the honeybee colony has been accepted as a fact for centuries. The most obvious division, of course, is based upon sex differences. The functions performed by each of the three casts are too well known to warrant further consideration here.

Likewise it has been recognized for centuries that various duties within the hive and in the field are apportioned among the workers, but the basis for such apportionment remained a mystery until relatively recent times. For many years, however, it has been accepted as a fact that the type of labor performed is determined largely by the **age** of the worker. Thus in the course of its lifetime each worker would normally perform successively each of the various duties performed by workers in general.

Various fragments of knowledge on this subject have been in our literature for years, but to Dr. G. A. Rosch of Germany goes the credit for having supplied a number of the missing links and for having confirmed various conceptions based upon the reports of previous observers of bee behavior. Results of his studies, published in 1925 and 1927, include data secured from marked individuals relative to the age at which they performed various duties.

Rosch found, as had previous observers, that during the busiest period of the year, workers live about five or six weeks and that approximately the first half of the worker's life is occupied by duties **within** the hive, while the latter half is spent in **field** work. Rosch found also that during the first 13 days after emergence, the worker normally performs but two kinds of work, but that from the 14th through the 20th day she may vary her occupation to a considerable extent within certain fairly well-established limits. Furthermore, no hard and fast time limits are given for the various duties since an excess of bees for any given duty may lead to the performance of other duties by such excess; or a shortage of help in a given line may bring about a departure from the normal sequence of duties. As a matter of fact, it has been known for years that a colony containing no workers more than eight days old is capable of performing all the functions performed by a normal colony.

Rosch observed that bees 1-3 days old clean themselves upon emergence, take food from other bees but none from the cells of the comb, clean out brood cells and loiter on the brood, thereby helping to keep it warm. Their loitering upon the brood appears to be of considerable importance since the duties of other bees take them away from the brood in the busy season. The only work performed during this period is that of cleaning brood-cells. Workers of this age were never seen helping themselves to any food stored in the hive.

At 3-6 days of age they act as nurse bees, but feed only the older larvae that are not more than two days under the age for sealing. These they feed pollen and honey which they take from the cells. But when the glands which secrete brood-food become functional, which occurs at the age of about five or six days, they then feed principally the younger larvae. This they continue to do until about the 13th day.

Orientation flights often begin during the latter part of the nursing period which may extend slightly beyond the 13th day in case of lack of nurse bees, or it may be cut short by a heavy honey flow, since the second and final period of hive duties begins with relieving incoming nectar-gatherers of their loads and storing them away. The stowing away of pollen is performed at this age also. Once these duties are begun, the job of nursing is left to others.

With the decline of the brood-nursing glands, which starts somewhat before the 13th day, the wax glands begin their functioning and are at the height of their development in workers 12-18 days old, and as might be expected, it was found that comb building is done largely by workers of this age.

Still other tasks performed during this, the seocnd and last period of hive duties, include cleaning and carrying out debris and finally at 18-20 days of age, guarding the entrance. According to Rosch, bees of this age often sit idle on the combs

or perform all kinds of incidental work, which may be carried on for a short time only. Thus it will be seen that no definite statements can be made as to the behavior of a worker during the third week of her life.

Rosch failed to find any definite sequence in duties performed outside the hive. Apparently the duty performed depends upon circumstances.

Gathering, Ripening, and Storing.—Numerous investigators have contributed to our knowledge of the behavior of bees engaged in gathering and storing pollen and nectar. In the brief period at my disposal only a few of the more important contributions can be presented.

According to Gaston Bonnier, field bees may be divided into searchers and collectors. Searchers act as scouts, searching out sources of pollen and nectar. When a suitable source is found and other bees come to the source, they all become collectors, including the searcher. During a good honey flow, searchers go out only in the early morning and soon all become collectors, but during a dearth, searchers are out all day. It seems probable that we have here a plausible explanation of why robbing tendencies are lacking during a good honey flow and so severe during a dearth.

Bonnier also carried out experiments which indicate that nectar-carriers, pollen-carriers, water-carriers, or propolis-carriers do not leave their respective duties and will not stop even to collect honey placed before them. He reported also that certain bees confined their visits to a certain limited portion of a row of plants which were all in bloom.

Communication Among Honeybees.—Bonnier observed also that only a sufficient number of collectors come to a given group of flowers to gather the nectar or pollen as the case may be. When the number of flowers was increased, additional collectors

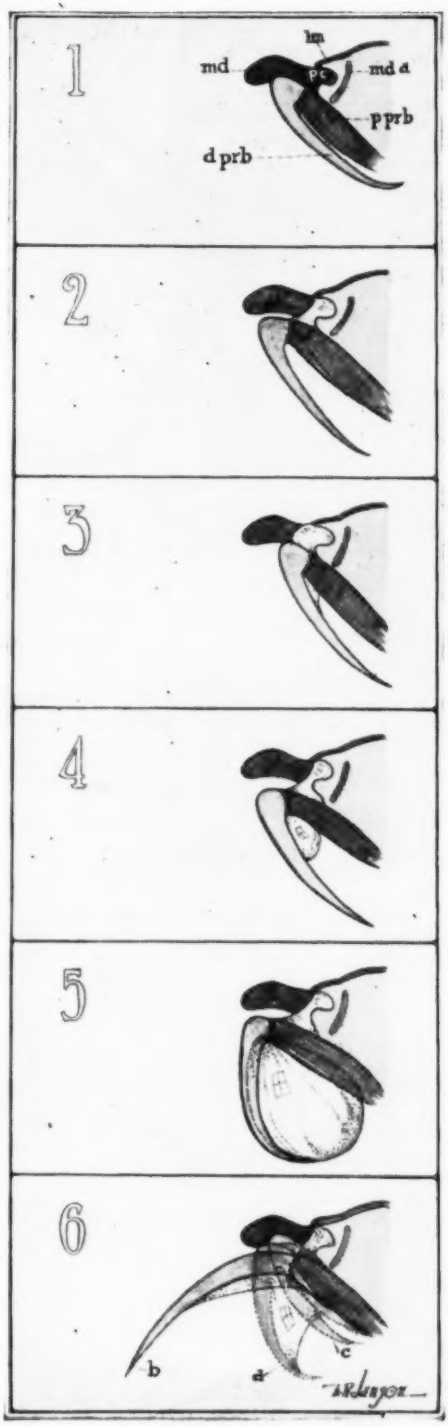


Diagram sketches of the mouth parts of a honeybee engaged in ripening honey. —By Dr. O. W. Park, of Ames, Iowa.

came, whereas, when the number of flowers was reduced, fewer collectors appeared. This he observed but was unable to explain, and no satisfactory explanation was forthcoming until 1921 when Von Frisch published his work on the "Language of Bees." Observations and experiments carried on during 1919 and 1920 without any knowledge of Frisch's work enable me to confirm his conclusion that the "'dance" performed at times by loaded fielders just returned to the hive is a means employed to inform other bees that food is to be had for the getting.

This method of communication, however, is inadequate to give the location of the food unless that be already known to the recipient of the message, so that the bees which respond to the dance must individually search out the source of supply. There is some evidence to indicate that in some instances at least, they are aided in their search by the odor of the booty dispensed by the dancer.

As long as the supply continues abundant, most of the returning bees perform the dance, but as soon as the supply becomes depleted, the returning bees cease to perform the dance and in many cases do not themselves return to the source, until some searcher finding the supply renewed returns with a load and performs the dance. Here then we have an explanation for Bonnier's observation that the number of collectors varies directly with the abundance of the supply.

Behavior of the Incoming Nectar-gatherer.—It is commonly stated in bee literature that when a bee brings in a load of nectar, she goes to a cell and deposits it there. While this probably does occur at times, I have failed to see it in the many hundreds of cases I have observed. My observations are in harmony with those of Gallup and Doolittle, both of whom have reported that the nectar-gatherer upon arrival in the hive soon delivers her load to one or more workers which we may refer to as house-bees. Occasionally she gives her entire load to a single house-bee, but usually she distributes it among three or more.

If the nectar source is bountiful, the loaded nectar-gatherer usually performs the peculiar dance already mentioned. She usually is followed by several other bees and while she continues her dance, every now and then one of the interested followers may be seen to leave for the field, until by the time the dancer is ready to depart, a dozen or more may have left the hive to search out the source already discovered by the dancer. It is to be noted especially that most of the new recruits leave the hive before the dancer does. Obviously they **do not follow** the latter to the source of supply as has been assumed so commonly.

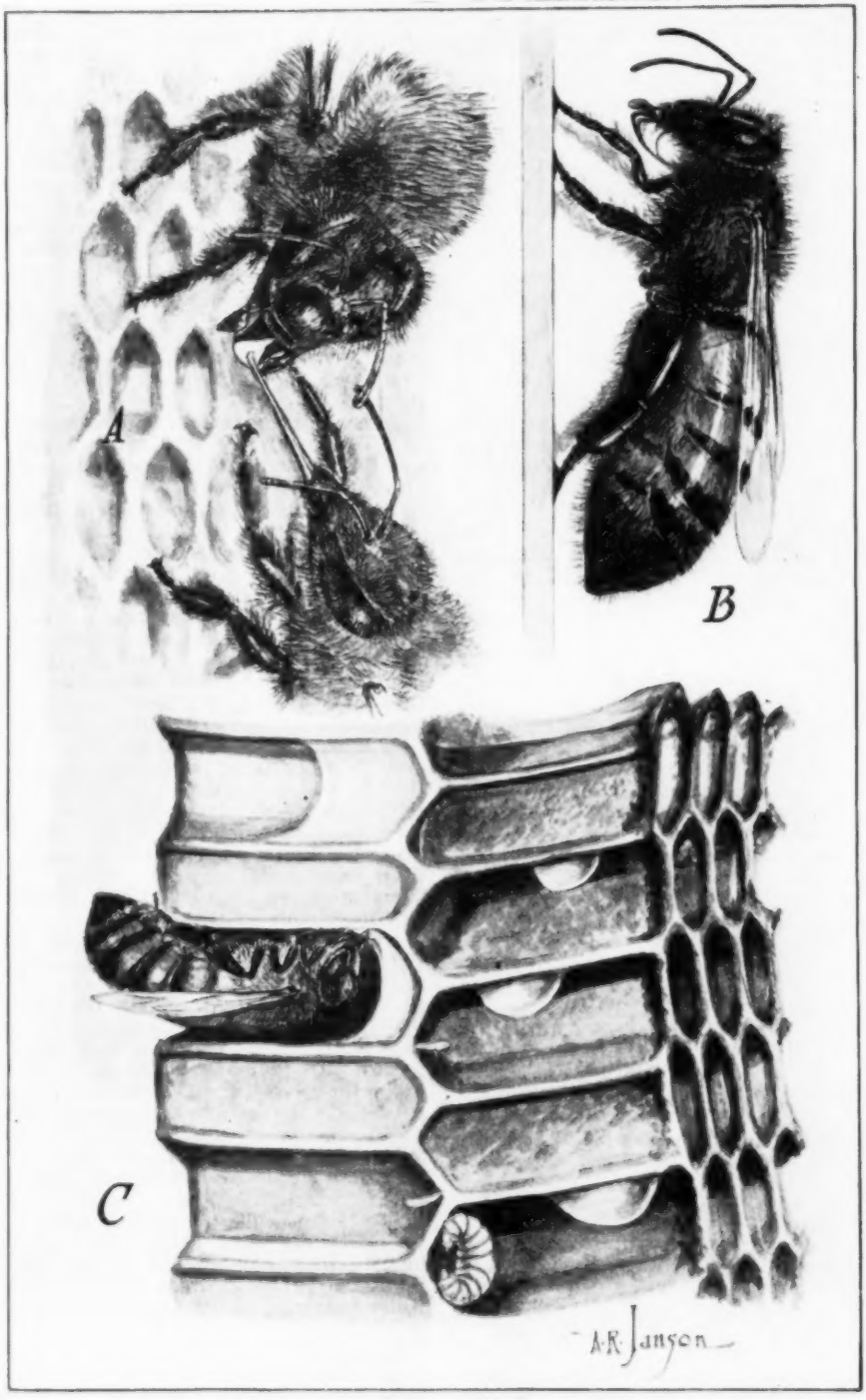
When the nectar-gatherer has disposed of her load, she may start directly for the field, but in most cases she first secures a small amount of food either from another bee or from a cell. Before making her final start, however, she almost invariably gives her tongue a swipe between her fore feet, rubs her eyes, and often cleans her antennae. Then with a quick look around, as if taking her bearings, she sets off for the field in great haste. The process of disposing of her load often is accomplished in less time than it takes to describe it.

By marking individual nectar-gatherers and keeping time records on their goings and comings for several days in succession, I found that they seldom remained in the hive as long as 10 minutes between trips, and that when working under favorable honey flow conditions, the most frequent interval spent in the hive was less than four minutes.

It was found also that as a rule a given marked bee continued to perform her particular type of work day after day throughout the period covered by the observations. Moreover, some evidence was found to indicate that a bee engaged in carrying pollen from a given plant species, does not readily give up her allegiance to that species. For instance, it was observed that marked bees carrying pollen from corn rarely left the hive after corn pollen ceased to be available for the rest of the day, normally at about 11 a.m., although pollen was available from other sources during the afternoon.

Role of the House-bee in Ripening Honey.—In the past it has been difficult to explain the fact that when first deposited in the comb, nectar or green honey, as it should then be called, is already more concentrated than the nectar from which it was produced. Speculation on this point led Brunnich of Switzerland to formulate the interesting and ingenious "excretion" theory of ripening honey.

In the light of more recent investi-



A. Nectar being transferred from a loaded nectar-carrier (upper) to a hive bee (lower). B. House bee ripening honey C. House bee depositing honey.

gations carried on at the Iowa Agricultural Experiment Station, this theory appears to be superfluous and without foundation, as will become evident shortly.

When the house-bee has received her portion of a nectar-gatherer's load, she meanders about the hive in search of a place where she will not be crowded. Here she usually takes up a characteristic position with the long axis of her body in a perpendicular position, head uppermost. She stands so very still that most observers consider her idle, but they have failed to notice that she is manipulating her load of nectar with her mouth-parts. During the course of these manipulations, which commonly lasts about 20 minutes, her load of nectar is exposed little by little in a thin film to the warm dry atmosphere of the hive in such a way that it loses moisture rapidly. This then accounts for the fact that nectar when first deposited in the comb is considerably more concentrated than when it was gathered from the flowers.

Contrary to the exception of ripening by excretion, our experiments have shown conclusively that when a nectar-gatherer arrives at the hive with her load, it actually is slightly more dilute than when she gathered it, instead of being more concentrated as Brunnich contended. Apparently he never had observed the behavior of the house-bee in the role just described.

Storing New Honey.—Upon completion of the foregoing part of the ripening process, the house-bee searches out a cell in which to deposit the drop she has been concentrating. Into the cell she crawls, ventral side uppermost. As stated by Arthur C. Miller, this position is rather characteristic of a bee depositing honey. If the cell is empty she "paints" the honey across the rear end of the upper wall of the cell so that it runs down and occupies the rear portion of the cell. But if the cell already contains honey, she dips her mandibles into the honey already there and adds her drop directly and without the "painting" process.

When nectar is coming in rapidly, and particularly if it is very thin, the house-bees do not always stop to put it through the ripening process, but deposit it almost at once. Under such circumstances, instead of depositing the entire load in a single cell, the house-bee often distributes her load by attaching a small hanging drop to the roof of each of several cells. A favorite place for such deposition is within the brood-nest where cells already occupied by eggs or small larvae frequently are made to do double duty temporarily. Thus with a maximum surface exposed in the warm and relatively dry atmosphere of the hive, evaporation proceeds while the house-bee continues to relieve incoming nectar gatherers of their loads. Later these droplets are collected and it seems probable this nectar may then be concentrated further by manipulation, as described above, before being deposited.

It is to be hoped every beekeeper has observed the typical arrangement of brood, pollen and honey in, and adjacent to the brood nest. Since the brood-nest (not the brood-chamber) normally is almost spherical, a frame of brood represents a cross section of it. Brood fills the central area of the frame and often extends to the bottom-bar. Bordering the ends and top of the brood area there is a band-like region of cells occupied with stores of pollen. Surrounding this and filling the remainder of the frame to its top-bar and ends we find stores of honey. And whenever new honey stores are brought into the hive, any vacant cells in the region immediately above the pollen area are the first to be filled. Thus the common practice of adding each new super directly above the brood-nest is based upon the natural storing habits of the bee.

Evaporation after Deposition in Cells.—We found by means of experiments that combs of newly-deposited honey screened from the bees and placed in the hive lost moisture at such a rate as to attain the concentration of ripe honey in three days. This is the length of time generally accepted for combs of green honey to become ripe when not screened from the bees. These results cast still further doubt upon the theory of honey-ripening by excretion.

We found also that the rate of evaporation from cells filled one-fourth full was three times that from cells filled three-fourths full. When comb space permits, bees make excellent use of this fact.

Observations show that when adequate comb space is available, few cells are more than half-filled with green honey at the close of a day of heavy flow and many contain much

less. If such combs are shaken, green honey flies out freely. Examination first thing next morning reveals important changes. The widely-scattered cells that contained small amounts the preceding evening now are empty while comb areas that were not quite full are now completely filled and cells in adjacent areas are fuller than they were. Scarcely a drop can be shaken from any comb. Surely no one can doubt the wisdom of providing an abundance of comb space to facilitate the ripening process. It is an important consideration in the maintenance of colony morale.

While adequate comb space for evaporation may be provided readily enough in extracted honey-production, its provision in comb-honey production is a real problem because ready-built combs cannot be used and also because crowded conditions usually are considered essential. This is one of the reasons why colony morale is so difficult to maintain under conditions of comb-honey production.

We cannot here go into the details of comb-honey production but it may be of interest to take note of the system of supering devised and used by Demuth, who made an outstanding success as a comb-honey producer. The following paragraph gives the essence of the plan in Demuth's own words.

"Except toward the close of the season, place each newly-added super next to the brood-chamber and keep the one nearest completion just above it with all others arranged above these two, the one in which least progress has been made being on top."

This plan, as may be observed, places the newest super immediately above the brood, where the bees will put forth a maximum effort to fill the void. When the foundation is well drawn, this super is transferred to the top of the stack and an empty one put in its place. A strong colony may thus be induced to expand its comb space at a rapid rate, thereby providing adequately for rapid evaporation of moisture from green honey. Furthermore many of the comb-building bees are carried up where they are as far from the brood-chamber as possible. Since this tends to alleviate any congestion of young bees in the brood-nest, it is also an important factor in swarm prevention. With proper care, colony morale can be maintained at a high level even in comb-honey production.

Ventilating the Bee Colony to Facilitate the Honey-ripening Process. — Joseph F. Reinhardt, a graduate student working under our direction a few years ago, carried out a series of experiments in which varying degrees of ventilation were provided. From the results obtained, the following conclusions were drawn.

1. Special provision for upward ventilation is effective in speeding up and completing the ripening of honey under conditions of mild weather and an abundance of nectar.

2. Special ventilation is of little value to the honey-ripening process when weather is hot and excessively dry or the honey flow is light.

3. Temperature, humidity and the character of the honey flow are important factors in the rate of honey ripening, and they determine whether special provisions for ventilation are of any effect on the speed of the honey-ripening process.

Maintaining Colony Morale

Early in this discussion it was pointed out that man's profit from the labor of the honeybee depends upon his ability to adjust his methods to her ways; that any failure on his part to control and adjust the various factors of colony environment in conformity with the laws of bee behavior tends to lower colony morale; and that every manipulation performed in accordance with the normal activities of the colony tends to maintain morale.

The "rule of thumb" beekeeper may succeed fairly well as long as environmental conditions are normal, but whenever abnormal circumstances arise, he is apt to guess wrong at least as often as he guesses right, for only in the light of knowledge of bee behavior is it possible to predict the reaction of a colony to a given manipulation under given conditions. Obviously the beekeeper should be quick to recognize any evidence of low or waning morale, such as bees clustered on the outside of the hive during a honey flow, undue slowness in entering supers, or untimely slackening of either brood-rearing or the accumulation of stores.

But what can the beekeeper do about it when he finds evidence of low morale? There isn't much he can do unless he knows bee behavior well enough to figure out what fac-

(Continued on page 571)

Handling Apis Dorsata

By C. R. Thompson

(From The Indian Bee Journal, October, 1940)

In a previous article I gave a brief account of my first experience with Apis Dorsata. As a matter of fact I did not know anything about bees when I handled Dorsata for the first time in my life. Though I was ignoant of its habits then, yet, I had heard it said that they were very ferocious and would sting their enemy to death. The only way of escape for the intruder was to run for what he was worth and jump into a tank or river and dive away after floating some-thing on the water. Now I shall give you an account of my second experience with Dorsata.

There was a big swarm of bees about 7 ft. long and 3½ ft. deep on the eves of a huge two storey building. I went to the place with my Bee Keeper and Peon. I opened the window that was nearest to the swarm on the second storey and tried to take a photo. In the meantime I asked my Bee Keeper to put up a long ladder from the ground. There was a large crowd assembled; some to see the fun and some to eat the honey. The entire crowd helped in putting up the ladder. The ladder being too long and heavy it slipped out of their hands and dashed against the wall. This provoked the bees very much. I was focusssing the camera and in the ground glass I saw the whole swarm coming down. Immediately I looked up and saw the bees surrounding me. I was steady and did not even wink my eyes. It took about five minutes for me to get down from the window sill to a desk nearby and then to the 2nd floor. I controlled my breath and movements. I backed very very gently and covered half the distance of the big lecture hall without being stung by a single bee when my Bee Keeper ran past me being chased by the bees. I told him to throw away his turban which was fully covered with bees, and run. For, one good method of escape from bees, wasps, etc., is to throw ones turban or upper cloth against the enemy to distract its attention and run away. The Bee Keeper in his desperate attempt to escape wrenched his turban from his head, threw it right against my face and escaped. In the twinkling of an eye a swarm of bees were on my head and gave me a thousand stings. Forthwith I covered myself with the opened out turban and avoided further stings. I collapsed in a few minutes.

The big crowd that was on the ground was badly stung. The traffic in the road was held up. The scene on the road was very amusing.

I was conscious all along but too weak to move or talk. My body became cold and blue and I heard some one say that I would die in a few moments. While I could yet talk I gave instructions to put me on a coir mat on the ground, but none carried out my instructions. They left me on the cold cemented floor. I asked for hot water but they poured cold water into my mouth. To make the story short a carriage was sent for which came and halted outside the portico, in the sun. There was plenty of new straw in the cart and by the time I was brought down from the 2nd floor, the cart had got heated up like a baker's oven and it was to my advantage. I was put in. There was also another person badly stung like me. By the time he was brought in I had got warmed up.

The carriage moved on, followed by a crowd that had received 4 or 5 stings each. The people round about the locality thought that I was dead and it was a funeral procession. Women and children from the neighboring houses had come out to the road to see the procession and I did hear several women passing sympathetic remarks. It was very humiliating and I buried my head in the straw.

I was taken straight to the hospital. A doctor examined me and said I should be in the hospital for three days. I said no. Then he said that I should remain there for at least 24 hours. Again I said no. Then he insisted on my taking an injection. I replied I had already received a thousand from the bees. I asked for a stimulent mixture and he brought me one. I took a dose. My followers also received a dose each.

I had already recovered on my way to the hospital. The stimulent mixture did the rest. I got into the carriage and back I went to remove the swarm. By that time a fresh

mob had gathered and had got into the building and were watching me through the glass windows.

I went up myself, protected with veil and gloves, and applied a little smoke to the swarm and then removed all the bees. The comb was bodily removed, tied to a pole and left there for the bees to return. By night the swarm was brought away to my house and hung up in the verandah. The next day the bees were quiet and I was able to handle them freely with naked hands.

In reply to Mr. T. V. Jayarama Iyer I may say that Dorsata bees are a bad lot. They are ferocious and vindictive. But, one must know how to approach and handle them. It is dangerous to take inexperienced men to remove such swarms. They can be handled just as any other bee. All one has got to do is to approach the swarm like a thief. Do not allow your breath to fall upon it. Do not have any foul smell or sting poison smell about you. Try to get a mastery of the bees first or they will get a mastery of you, which is dangerous. It is safer for inexperienced persons to approach it well protected and apply a cloud of smoke, if you are not able to judge the behaviour of bees and when and how to apply smoke. Do not thrust the smoker into the comb all of a sudden and frighten the bees. Do not give any jerks at the beginning and irritate them.

Mr. Viswanathan of Kirkee has received personal instructions from me in regard to this and has been able to manipulate without getting stung. One of my assistants, who is now Bee Keeper to the Sind Govt. at Karachi, Mr. Parameswaran Nair, is also able to handle these bees. Hence, those of you who are near either of the above two gentlemen can get a demonstration easily. Once if you see it operated you will be able to do it yourself very successfully. I wish to impress on my readers "Be very careful not to allow the bees to attack you first and then they will be as quiet as kittens." Do not irritate them in any way, but handle them as gently as possible. You may give them a cloud of smoke at the beginning for safety.

An exhibit of honey put on by C. E. Lush, of Orange, Calif. Mr. Lush says he received the best results from this exhibit of any advertising he has ever done.—Photo courtesy of Frashers, Inc., Pomona, California.

The Role of Beekeeping in the Present War

[The addresses of J. I. Hambleton and H. J. Clay, of the Government, as given at the Medina Field Day on August 7, were so important and informing that we are here presenting a transcript which we hope our readers will read very carefully. They will clarify as well as explain what has been done and why on price ceilings and M-118. It will be apparent that these men have been busy on the job in trying to protect the interests of beekeepers. See p. 561.—Ed.]

Judging from the reaction to Honey Allocation Order M 118 of the War Production Board not all beekeepers are aware in what manner they are making their best contribution to the serious business of winning this war. Those old enough recall that during the first World War honey and sugar were sold without restraint and at unreasonable price levels. Moreover, the demand for seeds, oils, and other products needed to carry on war was not so acute as in the present war.

The Effect of Arsenical Poisons on Pollination

One other marked difference has a bearing in our case. At the time of the first World War the annual consumption of arsenical insecticides was less than 5,000,000 pounds. We are now using over 125,000,000 pounds of such insecticides. A quarter of a century ago bees were not needed for pollination as they are today, for in most sections of the country wild pollinating insects could be depended upon. Since that time agriculture has undergone enormous changes. Wherever large acreages of any one crop are planted the nesting places of many pollinating insects are destroyed. The disappearance of rail fences and the elimination of small wood lots and clean cultivation have further reduced the populations of many beneficial insects. But perhaps the principal reason for the depletion of wild pollinating insects has been the use of arsenical sprays and dusts. At present and for a long time after this war, we will not only require seeds for our own crops, but we will have to help supply some of the foreign countries with the identical varieties or seeds which we have heretofore imported from them, and the honeybee is the only pollinating agent upon which we can rely. American beekeeping has been given the most important role in its history and a job that will not be finished with the winning of the war but must continue during the era of world rehabilitation.

All these facts are known to the War Production Board and other governmental agencies which have the stupendous responsibility of planning every intricate move in the war. We are now seeing many products rationed, and as the months go by the ration list will continue to grow. Every industry is being scrutinized to eliminate waste and to save essential materials. It is not always apparent why the production of certain materials and products is being limited, as every one is well aware that they are to be had in plenty; yet it is often necessary to curtail and ration an article that is plentiful for no other reason than to save labor. It is not possible for the average person to know the background upon which many war-time measures are based. For instance, the Office of Price Administration recently held a hearing in New York City to discuss ceiling prices on various waxes, including foreign and domestic beeswax. Great Britain and the United States being the principal users of beeswax, carnauba, and a few other waxes, the supply and price were as vital to the British Government as to our own, and so it was only natural that our government should negotiate with the British Government as to price ceilings. What appears to us as a simple and purely domestic matter was the subject of serious deliberation between the two governments.

Sugar Rationing

Let us go back to January 18, 1942, when in an interview with Mrs. Roosevelt, the Secretary of Agriculture mentioned that sugar would be rationed to consumers . Just previous to this sugar rationing had been ordered for industrial uses, the limit being 80 percent of the 1940 consumption. As a result manufacturers sent their buyers on the market to buy honey. Many of them had never bought honey before, and they bought honey with little regard to grade or floral source, and at prices which beekeepers and dealers could not refuse. Overnight the price of honey more than doubled, and it appeared that at long last prices and prospects would

rise to overcome the losses and starvation wages of the lean years.

Just when the picture looked brightest for high prices and unlimited sales of honey, the Government stepped in and issued General Preference Order M-118. Not a few beekeepers considered the order a backward step. This was not the first time, however, that the War Production Board had recognized the beekeeping industry. Sometime previously it had in a very tangible manner made known its viewpoint as to the part that the industry should play in the war. It granted the manufacturers of bee supplies a quota of 100 percent of their 1940 consumption of critical materials. It did so, not on the basis that honey was indispensible to the war effort, nor because beeswax had become so scarce that drastic steps were necessary to increase its production but to minimize the danger of there being too few bees to carry on the all-important work of pollination.

The Consumption of Honey

Let us consider some of the facts. The consumption of honey in this country is only 1 or 2 percent of the consumption of sugar, a really negligible amount, and as a war measure honey could be dispensed with at little inconvenience to consumers. Beeswax is essential in the manufacture of munitions and airplanes. Since most of our beeswax normally is used for non-military purposes, large quantities could be diverted to war purposes. The importance of beeswax in the war effort, however, should not be minimized. Normally we produce only half as much beeswax as the country uses, and with shipping greatly curtailed, domestic production is going to assume more importance. Beeswax may possibly play a more important role than any of us dream of before the conflict is over. Beekeepers fortunately hold a large reserve of beeswax which would be available to the armed forces on short notice.

The Important Work of the Bees was in Pollination

The main forte of the beekeeping industry in the war is not to produce honey and beeswax but to furnish bees for pollination and for this job there is no substitute. The beekeeper can be paid for honey and he can be paid for beeswax, but there is no practicable way to pay him for pollination. The consumer buys honey in exchange for pollination. Honey pays the pollination bill, and the War Production Board has seen fit to safeguard the honey market through the issuance of Order M-118, and by supporting the industry in many ways to the end that the pollination bill be paid.

Why Order M-118

Do we need Order M-118? Prior to its issuance manufacturers of soft drinks and ice cream and other large industrial concerns who had had no need for honey when the price hovered around 5 cents and when sugar was plentiful suddenly became honey conscious and honey hungry. Most of them could afford to pay almost any price for honey so long as its use would help make up the 20 percent reduction in business which sugar rationing had so suddenly imposed upon them. Beekeepers and wholesalers cannot be blamed for selling to new customers who offered more than the old ones. The old customer could not afford to pay three times more than he had been paying, nor could the honey bottler, as the increase in price was too much to pass on to the consumer. The consumer was not willing to pay an unreasonable price so long as he could get almost as much sugar as he had been getting and at a moderate price. This sudden change in the market was rapidly taking honey out of the channels which the beekeeping industry had been so many years in building, and it was taking honey from the tables of consumers.

The Freezing of Honey in Warehouses

Order M-118 was a drastic order, for it froze thousands of pounds of honey in the warehouses of firms who bought it with good intentions. It even prevented new users from obtaining such honey. Gradually, however, the War Production Board authorized the sale of this frozen honey in such a manner as not to disturb the market. Much of this honey was sold on a quota-free basis, that is, it could be sold to and used by any one whether or not he had used honey before.

Without such an order what would these concerns who want to buy honey and use it for manufacturing do when sugar is again plentiful? Would they continue to be willing to pay more for honey than for sugar, or would they prefer to buy a sweetening agent that is highly standardiz-

(Continued on page 545)

Effective Honey Displays

By Emory Ward

The beekeeper who passes up the opportunity of displaying his honey products at the state or county fair is passing up one of the most effective and interesting ways of creating a greater demand for his product, and increasing his own profits accordingly. Any form of advertising will help the beekeeper merchandise his honey more successfully, and in the state and local fair exhibits the beekeeper is offered the opportunity to participate in a vast advertising enterprise that requires little financial outlay, but which brings in a host of profitable results.

The appeal of the exhibit is universal, and it serves as a means of creating a personal contact between the beekeeper and the buying public. It wins recruits to the cause of honey from the ranks of those who would otherwise be unaware of its healthfulness and tastiness, and it attracts those who would fail to consider Nature's Sweet in its plain everyday dress.

By making the consuming public aware of the goodness of the beekeeper's product, the well arranged, properly displayed exhibit can be a powerful factor in promoting the sale of honey and giving a favorable impression to those onlookers who witness the exhibit. But to be effective, the display must be carefully arranged in accordance with certain rules for that form of promotional advertising. The mediocre, run-of-the-mill type of exhibit has little promotional value, and should accordingly be avoided in honey displays.

Before any definite plans for the exhibit can be made the beekeeper must first ascertain what types of people will witness the display, and what appeal will prove most effective in gaining their attention. At most fairs the attendance will be so motley that the exhibit must make an appeal to all the varied human interests, and the general arrangement should be made as simple yet as dramatic as possible.

Newness, freshness, and novelty should be an inherent part of the display, and the story should be told pictorially, in a refeshing manner. Technically, the variety used in the exhibit is limited only by the ability of the beekeeper to develop new ideas.

Generally, honey exhibits will automatically fall into one of two classifications: the first being that exhibit in which something is done as an actual demonstration before the observers. Such an attraction might consist of any demonstration in beehandling, or in the actual extraction and preparation of honey. It might also include a glass-front observation hive wherein the bees reveal the mystical secrets behind the manufacture of honey for the benefit of curious onlookers.

The second, and by far the most common form of exhibit, is the mere mass arrangement of honey products with sufficient identification placed in a more or less static manner, examples of which can be found in any of the larger county or state fairs.

For the sake of attention-gaining, the actual demonstration will generally prove the most effective because of its personalized movement, but it is also most difficult to handle under the general facilities which the average fair offers. As another disadvantage, the attention of the observer is too often concentrated completely on the demonstration rather than on the actual honey products, and the beekeeper thereby fails in the real purpose of the exhibit—the promotion of honey.

For the best results, therefore, the beekeeper should attempt to secure attention through the use of actual honey products in all the variety of forms that he can develop, including comb honey in all sizes, extracted forms in varied containers, and samples of beeswax. The more attractive the result is to the eye, and the more dramatically it is arranged, then the more effective and more successful the eventual results will be for the beekeeper.

The physical clarity and purity of honey plus its attractive transparency combine to form an ideal arrangement when a bright light is placed at the rear of the exhibit to shine through the honey display in the foreground. A similarly attractive arrangement for an unusual display can be created by an extensive use of the small individual comb

honey sections arranged in any number of attractive manners.

Unquestionably, some explanatory matter of some nature will be necessary to round out the display, but the story itself should be told chiefly in articles and produce—not by the placards. Posters used in a series and arranged so that they do not hide any of the actual displays are effective providing each poster stresses a separate idea.

Placards with a single "tag" or "catch" line can be effectively used. Such statements might include—"Honey—Nature's Sweet", "Children Love It", "Doctors Prescribe It", "Untouched by Human Hands," "Never Imitated — Never Adulterated", or other terse messages that dramatically reveal the value of honey as a food.

The placards of stiff cardboard should be attractively printed in letters large enough to be clearly visible at a moderate distance, yet not so large as to over-balance the remaining display. On the posters, it is better, if possible, to have the story told in pictures rather than words, but when used the pictures must agree with the rest of the exhibit in intended purpose and tone.

The ideal selling point for the beekeeper in any form of exhibit is the remarkable purity of the product, and the high esteem in which it is held by the nation's leading doctors and dieticians. Any number of unusually successful exhibits can, and have been, based on these two great selling points of Nature's Sweet.

The greatest advertising value of the fair exhibit comes in the questions which the observers have to ask, and in the opportunity it offers the beekeeper to come into direct contact with the consuming public—his prospective customers. To utilize this element of promotion to the highest extent, it is essential that an attendant be on hand at all times to answer any questions which might arise, and to gain the full benefits of those intimate relationships which are created between producer and consumer.

Many beekeepers who exhibit consistently at the state and local fairs keep elaborate books in which each person witnessing the display is asked to register his name and address. At the conclusion of the fair and just before the end of the autumn's honey flow, this list of names is used as a mailing list for selling the new crop of honey.

It was a publicity-minded rural editor who once said, "He who tootteth not his own bassoon getteth not the same tooted," and in the beekeeping industry these fair exhibits offer one of the most economical methods of tooting your own bassoon for effective promotional results and greater beekeeping profits.

Toledo, Ohio.

The Old Swannee River, at Old Town, Florida.—Photo by M. J. Deyell

Using the Golden Harvest

By Mrs. Benj. Nielsen

Start the day right with a luscious bowl of Nabisco Shredded Wheat. Reinforced with vitamins and mineral loaded bananas and juicy prunes—drizzled with honey at room temperature.—Photo courtesy of the National Biscuit Co.

The bees have almost finished bringing in their golden harvest. They have made the most of each sunny day—cloudy, rainy ones, too. Do you suppose they ever squabble over who is to remain in for hive duties and who shall sally forth into the world of light? Do they ever disagree over the chores within their framed lined walls? Who allots the task? Are they inclined to procrastinate; put things off from day to day (as we ladies postpone washing the windows, perhaps) just because conditions aren't just so, or something unexpected turns up? They seem so well-organized, such a sensible, purposeful I-know-what-I'm-doing lot as they hustle about in and out, ever busy. What secrets do their dark abodes conceal? I wonder! Well, anyway, our tanks are overflowing with quick-energy goodness, thanks to our winged friends, and with the advent of cooler days, we are anticipating some grand cooking orgies to appease those inevitable hunger twinges whetted up by crisp, tangy autumn breezes.

Now as never before, when our radios and newspapers bring us reports of losses as well as victories in this all-out struggle, nerves are keyed up, bodies tense, all our energies strained with the steady urge to do our utmost to end this war and see that a proper peace follows, we have need of an abundance of energy to see us through trying situations. In these days of strenuous activities, it is a joy to spread the good word that honey, our own product, furnishes an abundance of valuable quick energy. Easily assimilated, it is kind to digestive tracts that may be upset or "touchy" due to worry, fatigue or nervousness. Not infrequently its delicate flavor provides appetite stimulation. Let's make good use of the manifold good points of our finest sweet and keep up the good work of showing others how to use it.

The girls striving to keep a girlish figure may argue that going without breakfast, or hurriedly swallowing black unsweetened coffee and nibbling on dry toast, is "swell for the figure" but it is hard on nerves and disposition and sooner or later reduces efficiency. The grouchy male who puts up the argument that he just isn't hungry may well lose his grouch and find he is hungry, if brought face to face with a luscious bowl of Nabisco Shredded Wheat, reinforced with vitamin and mineral loaded bananas and juicy tender prunes—the whole skillfully drizzled with honey at room temperature. Yum! Yum! An excellent start for any day's work. The lady striving for slimness would show good sense in fortifying herself with such a start for the day—and cutting down a bit on other meals—if she must.

Honey cinnamon toast is another happy beginning for a good day. Spread slices of fresh toast with butter, brush with honey, the amount will depend on the capacity of your particular sweet tooth, sprinkle with cinnamon, and oven-toast enough to blend honey and cinnamon.

Here's a nice wrinkle for apple pie fans: Prepare crust as usual, fill generously with apple slices, cover with top crust and seal. No sweetening—yet. Bake in hot oven, 450 degrees F., for 10 minutes, reduce to moderate, 325 degrees F., and bake until apples are tender. Meanwhile, mix ⅔ cup honey, the amount of cinnamon that makes an apple pie perfection for you and liberal pat of butter. Of course, you have made a steam vent in the top crust: Now in through this vent goes the honey, spice, and butter mixture. The pie will be hot enough to take care of the honey nicely. Give the flavors time to get acquainted with each other, then proceed in the usual manner and enjoy a deluxe treat.

Honey Cream Pie

Crust: Line a 9-inch pie plate with Nabisco Pricilla Butter Cookies, cutting enough in half to stand up inside edge of pie plate. Fill in spaces with crumbled cookies.

Filling: Heat 2 cups milk to scalding point. Combine ⅔ cup honey, 4 tablespoons flour, and ¼ teaspoon salt in top part of double-boiler and gradually stir in liquid. Cook, stirring constantly, for about 15 minutes, or until thick. Blend with 3 egg yolks. Return to double boiler and cook until thick. Remove from heat, add 3 tablespoons butter and 1 teaspoon vanilla. Pour into cookie crust. When ready to serve garnish with honey sweetened whipped cream and pecan halves.

Honeyed Sweet Potatoes and Cranberries

Six large sweet potatoes. 1½ cups canned cranberry sauce, 3 tablespoons butter, ⅓ cup honey, 1 teaspoon salt, and ½ cup finely chopped nut meats.

Boil sweet potatoes, peel and cut in halves lengthwise; scoop out halves slightly. Place six halves in buttered baking dish, fill centers with cranberry sauce and top with remaining halves. Melt butter, add honey, salt and nut meats; spread over potatoes. Bake in moderate oven, 350 degrees F., for 20 to 25 minutes, or until slightly browned.

Honey Banana Tapioca Cream

One egg yolk, 4 cups milk, ⅓ cup quick-cooking tapicca, ⅓ cup honey, ¼ teaspoon salt, 1 egg white, 1 teaspoon vanilla, and 2 bananas.

Mix beaten egg yolk with ½ cup milk in saucepan. Add tapioca, honey, salt, and remaining milk. Bring mixture quickly to a full boil over direct heat, stirring constantly. Remove from fire. Beat egg white until stiff but not dry. Stir hot tapioca gradually into egg white. Cool. Mixture thickens as it cools. When slightly cool, add vanilla; chill. Just before serving, dice bananas, and fold into tapioca, garnish with sliced bananas and serve with chocolate sauce.

Honey Bran Muffins

One cup sifted flour, 1 cup Kellogg's All-Bran, ¼ teaspoon salt, ¾ teaspoon baking powder, 1 teaspoon soda, ⅓ cup honey, 1 egg, beaten, ⅔ cup buttermilk or sour milk, 3 tablespoons shortening, melted.

Combine dry ingredients. Add honey, egg, buttermilk and melted shortening. Stir only enough to dampen dry ingredients. Half fill greased muffin tins. Bake in moderate oven, 350 degrees F., for 20 minutes.

Honey Potato Rolls

Three medium-size potatoes, boiled, ⅔ cup shortening, ⅔ cup honey, 1½ cups of milk, 1½ teaspoon of salt, 1 cake compressed or 1 package

(Continued on page 572)

Honey cream pie with Nabisco Priscilla Butter Cookie Crust. —Photo courtesy of the National Biscuit Co.

Some Preliminary Observations on the Effect of Sweetened Ant Poisons on Bees

By Frank Shaw

Contribution from the Department of Entomology, Massachusetts State College, Amherst, Massachusetts.

Due to the fact that some question exists in the minds of certain beekeepers concerning the effect on bees of some commercial ant poisons, the following experiments were conducted to try to obtain information on the following points.

1. The toxicity of commercial ant poisons to bees.
2. The length of time necessary to kill a bee if the above mentioned materials are toxic.
3. The attractiveness to bees of commercial ant poisons.

Some preliminary tests were conducted, using individual bees, to try to determine the reactions of bees fed sweetened ant baits containing Thallium sulfate. Bees were caught, held and exposed to poison bait. In practically all cases they fed readily on this mixture. Each individual was then placed under half of a Petri dish and its behavior was noted. The reactions of the poisoned bee were compared to those of a normal bee which had been fed sugar syrup.

In all cases the bees were excited for the first few minutes. Within 15 minutes after feeding they began to show symptoms which appeared abnormal when compared to those of the normal bee.

Among the symptoms noted are the following:

1. The bee attempts to clean its tongue.
2. The front and hind wings become disconnected; i. e. the hooks, which synchronize the movement of the fore and hind wings, become disengaged.
3. The legs, especially the tarsal segments twitch.

At about 30 minutes following feeding the bees drag their abdomens as they walk about. Forty minutes after feeding, the bees become excited, vibrate their wings and if liberated will fly. The period of excitement lasts for about fifteen minutes and is followed by one in which the bees become quiet and acted normal. However, all bees which fed on the bait died within 24 hours.

Following these preliminary experiments some feeding tests were made using larger numbers. Bees were shaken directly from frames into package bee cases which had been partitioned so that there were two units per package. The bees were taken into the apiary, placed in a darkened room and kept at room temperature.

In the first set of experiments the bees were fed the following materials:

1. Check — 1-1 sugar syrup and water.
2. Ant jelly containing 1.3% Thallium sulfate and water.
3. Ant jelly and sugar syrup, of equal parts by volume, and water. Observations were made at 24 hour intervals.

The data obtained are given in the following table.

MORTALITY OF BEES

	Check No. 1		No. 2		No. 3	
	a	b*	a	b	a	b
May 29	8	76	160	251	108	190
May 30	14	55	33	38	74	44
May 31	11	22	8	4	19	1
June 1	14	35	all dead		21	
June 2	8	19			4	
June 3	9	9			5	
June 4	10	26			all dead	
June 5	23	12				
June 6	15	6				
June 7	12	8				
June 8	6	5				
June 9	2					
June 10	3					
Total	135	273	201	293	231	235

*Higher mortality in second check may be due, in part, to the fact that the water dispenser overflowed. This resulted in some of the bees becoming soaked.

Following this an experiment was performed on a small scale to try to determine the comparative attractiveness of Thallium ant poison and sugar syrup. The experiment was set up as follows:

No. 1. Check—provided with 1-1 sugar syrup and water.

No. 3.—Ant jelly containing 1.3% and water.

No. 3.—Ant jelly containing 1.3% Thallium sulfate and water.

The data obtained are reproduced as follows:

MORTALITY OF BEES

	Check No 1	No. 2	No 3
June 2	3	10	45
June 3	2	4	3
June 4	2	3	3
June 5	1	all dead	all dead
June 6	2		
June 7	1		
June 8	1		
June 9	2		
June 10	2		
June 11	1		
June 12	1		
June 13	2		
Total	20	17	48

This experiment indicates that when bees are exposed to the ant bait and sugar syrup together they appear to feed almost as readily on one as the other since the survival time was not significantly different.

A third set of experiments was conducted to compare the effects of Thallium sulfate and sodium arsenite ant poisons. The Thallium sulfate mixture contained 1% Thallium sulfate, the sodium arsenite contained 1.3% sodium arsenite.

The bees were placed in package bee cages previously described. The materials used include the following:

No. 1—Check
No. 2—Sodium arsenite
No. 3—Thallium sulfate

The poisoned baits were painted on the sides of the cage. Following this all cages received sugar syrup and water. Observations were taken at 24-hour intervals. The data obtained are reproduced as follows:

MORTALITY OF BEES

	No. 1 Check	No. 2 Sodium arsenite	No. 3 Thal. sulfate
June 10	7	594	496
June 11	34	2	57
June 12	86	All dead	44
June 13	83		34
June 14	41		7
June 15	36		3
June 16	18	All dead	
Total dead	305*	596	643

* There were 154 bees alive in the check at this time.

From the experiments described above it is evident that under laboratory conditions both Thallium sulfate and sodium arsenite ant baits shorten the life of a bee significantly. Of the two materials, the sodium arsenite bait kills the bees more quickly. It also causes the individual bees to become incapable of coordinated movements much sooner than those exposed to Thallium sulfate baits. Whether this would be of importance as far as safety to the other members of the colony is concerned has not been determined. The bees feeding on Thallium sulfate could certainly return to the hive since they have been capable of flying up to 50 minutes after feeding.

If experiments under field conditions demonstrate that the danger to bees of ant poisons is a real one, it would seem advisable to recommend to the manufacturers of sweetened ant bait that the containers of the poison be so constructed that honey bees can not gain access to the materials.

An apiary in western Ohio owned by W. A. Coulter, Columbus, O., a commercial beekeeper.

From the Field of Experience

RUNNING FOR WAX PRODUCTION.

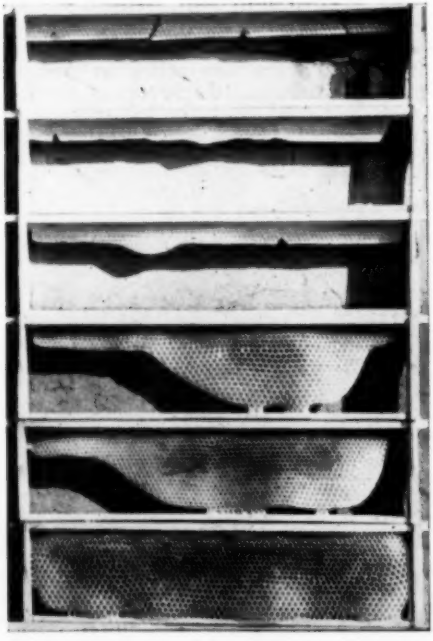
It has been stated that it does not pay to run a colony of bees for wax alone or for wax principally. This has not been definitely proven, however, and more experimental work needs to be done. With beeswax now bringing more than $800 per ton and with a heavy demand occasioned by the use of beeswax by the Army and Navy, the situation deserves the most careful research. Honey has also doubled in price and honey is needed with the growing scarcity of sugar, but there are localities where for one reason or another the honey does not command a high price. The flavor may be such that there is little demand or the expense of marketing is high on account of heavy transportation costs. It is in such localities, especially, that emphasis should be placed upon wax production.

Bro. Pancratius, St. Mary's College, North East, Penn., although he has a ready demand for all of his honey, has been experimenting on wax production. He uses shallow frame supers, puts in odds and ends of starters (even pieces will do), lets the bees draw the comb, then cuts out that comb all but a ¾-inch margin at the top bar, and has them start in all over again.

He also carries a basket with him for burr comb, scrapings of wax. He uses a basket because it is light and because it can be hooked over his arm or even carried by one finger. It is astonishing how fast wax accumulates if every bit is saved.

If the combs produced in shallow frames are filled with honey, the separating of honey from such combs may be taken care of in the extractor and the larger part of the comb cut out for wax, or the combs may be cut out before extracting, the honey pressed out or separated by heat. The former process is slow; the latter darkens the honey and changes the flavor slightly.

Suppose the combs are removed as soon as they are anywhere near completed and cut out of the frames all except a few rows of cells near the top, then the frames put back again. For experimental purposes it would be interesting to know how much wax one colony could thus produce.



THE EVOLUTION OF A SHALLOW COMB
These combs were removed from a colony run principally for wax. Pieces of foundation are used for starters.

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A VISITOR FROM CALIFORNIA

Mr. Arthur J. Mayer, formerly connected with Honeyville Sales Stand, located at Monrovia, California, now a representative of Bee Industries, Ltd., Alhambra, California, has spent several days here at Medina. We met him two different times in California when he was in charge of the Honeyville Honey Stand, a stand which cost $20,000 and which was founded by his father, A. C. Mayer. This stand was the most elaborate of anything put on a roadside to sell honey. It has among its clientele people not only from all over the U. S. A. but from Europe and Asia. The plant will now be in charge of A. C. Mayer, the father, and Albert Joseph Mayer, a younger brother.

In the meantime, Mr. Arthur J. Mayer will be connected with Bee Industries, Ltd., having charge of the candle and bee supply end of the business.

Arthur J. Mayer

We took this just as he was working in the Root plant in order to familiarize himself with the special lines which he will carry on in California.

He has had an extensive experience with bees, his father and brother having owned at one time 2,000 colonies; they are now operating 800, furnishing not only honey at the stand, but bees and queens and also package bees.

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GIVE THE BEES A CHANCE

By C. B. Gooderham

Dominion Apiarist of Ottawa, Canada.

Beekeepers! Give your bees special consideration this fall, as honey and wax are urgently needed; therefore do not risk the life of a single colony.

Now is the time to make the first preparation for the coming winter. Strong colonies of young bees are essential for successful wintering, and it takes at least six weeks to produce them; therefore, make sure that every colony is immediately headed with a good prolific queen that will also remain vigorous next spring. Do not risk a queen that may fail, because of age, during the next ten months. In addition to a good queen the colony must have a liberal supply of food throughout the autumn to rear to maturity all the brood the queen is capable of producing. If there is a danger that the fall honey flow may fail do not rob your bees too closely when removing the main crop for if you do you jeopardize the strength and even the life of the colonies.

The question of winter feeding should also be given serious consideration now before the main honey crop is extracted, and on its way to market. An emergency exists, sugar rationing is a fact which may become more drastic. The temptation to extract the last pound of honey may be great, but if yielded to, and sugar becomes difficult to obtain it will then be too late to repent. Save as much honey as you can for winter feeding, and thus relieve the sugar situation. In addition to what the bees need between now and the first of October another 45 pounds per colony will be needed for the winter supply. Another note of warning is not to waste food on colonies that stand little or no chance of surviving the winter.

Make all colonies strong so that their chance of wintering is 100 per cent on that score, then feed with the same idea in mind, and finally give adequate protection for winter. Otherwise your other preparations may be nullified.

Given an even break the bees are willing to do their part; are you?

• • •

BEESWAX MAKES NAILING EASIER

The following is taken from April, 1941, "Technical Note", Number 247, put out by the Forest Products Laboratory, Madison, Wis.:

The use of beeswax to make nailing easier is an old practice. Carpenters frequently have a hole filled with beeswax in the end of the hammer handle for waxing the points of nails. A limited number of tests were made at the Forest Products Laboratory to determine the effect of wax on driving characteristics and holding power. It was found that even a small amount of beeswax on the points materially reduces the force required to drive nails, reduces the percentage of nails that bend in driving, and reduces the splitting. However, it also reduces the holding power. Nails with waxed points driven through hardwood into softwood framing when pulled shortly afterward had about three-fourths of the holding power of nails with no wax on them. Several hours after driving, nails with waxed points had only slightly lower holding power than did unwaxed nails, indicating that possibly over a long period of time the loss of holding power as a result of waxing may be small.

SECOND GLANCES
By C. M. Isaacson

Saving plenty of honey for the needs of next winter and spring is no more than due the colony that gathers the crop — and Mr. Rahmlow is certainly right in saying that it will do very much towards producing that **above** the average yield (page 457). But with a three-story brood chamber is not the lowest body often almost unused, with consequent gnawing and deterioration of combs? I even find that reducing to one story during the latter part of the flow often gives better results—especially in well filled food chambers. With supplies hard to obtain, ought we not concentrate on producing bigger crops with a minimum of equipment instead of more? The automatic supersedure of queens as mentioned in the article should be one of the most valuable features of multiple brood chambers.

Some would call the record crop reported by Jessie Anderson, "beginner's luck", but I think it was rather a case of hard work and not being afraid to try (page 459). The reward was well deserved. It was interesting to read of the trading of the honey for various products—perhaps more of us could sometimes take a tip from this, and thus relieve the general market.

It is evident that Mr. Benninghof practices efficiency in all departments of his business (page 460). The photos show an enviable setup of equipment. That he has become really infected with the "disease" of apiculture is amply shown by the statement "I will always be a beekeeper". It tells volumes. Incidentally, combs of honey capped clear to the bottom-bar present a pretty sight, but sometimes there will be a terrible mess of burr comb to stick things up.

In certain cases, the method of producing thicker honey by running the supers thru an evaporating room may be of value (page 464); but, as pointed out, the prevailing practice now is to let the bees ripen the honey. And it might be mentioned that thick honey does not necessarily mean a first grade product — if odor and flavor are not what they should be.

That long daylight hours and warm sunny days are directly related to the main honey flow would seem a matter of course, but Mr. Diller's article (page 471) brings it out in a clear manner. It is certainly true; even with ample nectar bearing plants in the fields there can be no flow if there is no **opportunity** to gather it.

"Little Helps Around the Apiary". It is often these little items that add a great deal to ease of manipulation. Hints of this type should be made use of wherever possible (page 472).

When reading the item dealing with hereditary differences in bees, it comes to mind that the characteristic Caucasians have of stopping brood-rearing at various times can sometimes be a detriment as well as a benefit. In springs with several short honey flows that shut off suddenly, the several resulting shutdowns in egg laying will mean a smaller colony at honey flow time. I noticed this particularly the present season.

Anyone who has tried door-to-door selling can appreciate just what sales ability Betty Nielsen must have (page 475). A bicycle purchased with one and one half cents per pound commissions stands for a lot of honey sold.

That honey is not considered as an "Agricultural product" by OPA is puzzling to say the least (page 480). It certainly is no more a "processed" product than cream separated from the milk.

The need for more wax (page 481) brings to mind those "burr comb building colonies" that every beekeeper knows. In the past, they were considered pests — now perhaps as valuable assets. Times change.

That "poem" on page 497 may contain a lot of truth but I would venture to say that its rhythm and phrasing do leave a bit to be desired. Maybe it will be effective for that very reason.

While on the wax question, it should be good news to beekeepers to have Mr. Hambleton's opinion on the availability of comb foundation next season (page 496). Foundation is a valuable product in the apiary, and would be hard to do without.

Remember to "help ourselves by helping the Institute". It has proved its worth. Have we proved our support? With honey prices up, it will be easier to do it liberally.

Middle River, Minnesota.

Editorials

Pieces of burr combs or wax scrapings should be put in a sun wax extractor because they mean dollars.

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Pollination on the part of the bees should be emphasized time and time again. Keep talking it. Valuable as are honey and beeswax in the defense project, the part played by bees in bringing about more and better fruit and increased seed crop from legumes is possibly ten times or more than the value of honey and wax together.

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A Fall Flow of Honey will be all important this year where there has been a light yield or no white honey. In some localities this year we fear there may be either the dilemma of no fall honey or the difficulty of getting enough sugar to carry the bees through the winter. To prevent absolute starvation, it may be necessary to move the bees to where there is bee pasturage along river banks.

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The beekeeping industry is fortunate in that its products, honey and beeswax, are in great demand by our fighting forces. The lessons learned in wintering bees this past season are outstanding and will be elaborated more particularly this fall. It is neither too late nor too early to repeat that strong colonies, and that means good queens, a large reserve of stores after the season is over; colonies big enough to fill two stories are more important than an excessive amount of packing, and that does not mean that packing has no value.

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Why Not Advertise Honey in Local Newspapers? Beekeepers who sell honey direct to consumers in their respective communities should not overlook the value of advertising in local newpapers. To sell honey it is necessary to let people know that we have it for sale, the price, and also some facts concerning its virtues as a food. **To sell we must tell.**

The local newspaper is one medium through which we may tell people about honey. Be sure, however, to give, in the advertisement, the exact address, or location where the honey is offered for sale. A honey sign erected in front of the dwelling house, (or wherever the honey is sold) and referred to in the advertisement, is effective.

Spasmodic advertising is practically valueless. It is necessary to advertise continuously, (a small four or five line classified ad will do) and to back up such advertising with **quality** and **service,** in order to sell honey successfully.

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Honey from Vetch Honey from vetch is superb in color and flavor. Like clover it is a good blending honey. Vetch, as a fine farm crop, is being grown more and more in the south. Cattle and poultry like it. It enriches the soil and will grow where sweet clover and alfalfa will not survive. Years ago we tasted vetch honey and at that time came to the conclusion that the general public would accept it as clover because it is so much like it.

Recently Clay Lyle, head of the Department of Zoology and Entomology, State College, Miss., sent us a sample of vetch honey. It is excellent in taste, color, and flavor. If we had more men like Lyle in the Southland who know a good thing when they see it, vetch would be introduced in the Southland. Less cotton and more legumes that can grow on acid soils should be grown.

Lespedeza, another legume, is being introduced all over the South. Lespedeza is not a honey plant, but vetch is.

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Not Enough to Eat Most beekeepers mean to leave enough honey for winter and early spring stores but some fail to do so. They take it for granted colonies are well supplied with food but perhaps do not take time to investigate carefully the amount of honey in the hives.

In some regions of the North, as well as the South, the fall honey flow may be short, in fact, in some areas it may fail to materialize. During the fall months bees consume a considerable part of the honey they may store in the brood chambers earlier in the season. Then, to make matters worse, the late warm fall weather may cause unusual activity

in hives and a further abnormal consumption of stores.

In view of the demand for more honey and wax, also more bees for pollination purposes, it behooves beekeepers to feed their bees this fall, if necessary. Warm sugar syrup, or combs of honey if available, should be given.

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A Hearing was called in New York on July 31 to discuss prices on a number of waxes including imported and domestic beeswax. Several representatives of the Beekeeping Industry were invited and present at the Hearing. No definite prices were established but it seemed the intent to roll back the price of imported beeswax to prices prevailing about a year ago. A strong plea was made by those representing the domestic market that no ceiling price be established less than the present existing market prices. It was felt that prices under the present market price would not properly stimulate beeswax production.

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The War Production Board issued a list of some 500 items of import from all parts of the world that are placed on an emergency shipping priorities list as vital to the nation's wartime economy. Beeswax is placed under list 3. The first two lists are made up of critical and strategic materials important in varying degrees to the war effort. List 3 is made up of less essential civilian items of which shipping space only permits that a limited quantity at best can be brought into the country because of the stringent shipping situation. It is also understood that a total of 4,000,000 pounds of foreign beeswax may be imported on license if shipping space can be found. As classed in the above import list it is possible the 4,000,000 lbs. authorized will not find sufficient boat space.

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Honey Price Ceiling Discussion Honey prices were discussed at a meeting of O. P. A. officials and representatives of the Honey Industry on August 10, in Washington, D. C. The purpose of the meeting was to attempt to iron out some of the problems resulting from the inequalities in the prices of honey at retail, wholesale, and producer under the General Maximum Price Regulation.

The Ohio - Michigan Beekeepers' Association had recommeded in a resolution on Aug. 7th that honey be declared a non-agricultural product and removed at least temporarily from under General Maximum Price Regulation ceilings. It was felt that prompt action in this way would overcome the marketing problem of honey caused by the General Maximum Price Regulation until more suitable arrangements could be made under a permanent ceiling. (See page 565.)

O. P. A. officials declined to take any action that would permit honey to be removed from the General Maximum Price Regulation temporarily. An attempt was made to explore the possibility of developing a formula on a percentage basis for establishing ceiling prices at retail, wholesale, and producer level.

It is probable, due to the work involved in obtaining the necessary data on the spread of prices between these three points that it may be some time before definite ceiling prices will be established.

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Vitamins have now been definitely found in honey to such an extent that our product can be classed as one of the foods as high in these essentials. We are not permitted as yet to give the when or where of this information. Gleanings will publish the details as soon as they can be translated into English that the layman can understand.

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This Season's Crop The aggregate yield of honey taking the country over will be below normal we fear on account of chilly rainy weather. See Government Market Report, page 516. In some good localities in the East bees have been gathering just enough to keep up brood-rearing. In other localities, particularly in the West, where sweet clover and alfalfa abound, the yield will be from a half to a bumper crop. In the East in Northern New York there has been a fair crop.

In a recent trip through Wisconsin, Minnesota, North Dakota, and Michigan, the yield increased as we went northward from a half, two-thirds, to a normal crop. In a few localities there was reported a bumper crop, the best in years.

The season in California has been disappointing. It is too early yet to get estimates from the Rocky Mountain States.

THE ROLE OF BEEKEEPING IN THE PRESENT WAR

(Continued from page 533)

ed, and of which millions of pounds are always available, to one that is not standardized and not so easily bought, harder to handle, and more expensive? The answer is apparent. As soon as sugar returns to normal, these concerns will go back to using sugar. Many of them go to the trouble and expense of taking the color and flavor out of the honey. They want only its sweetness. The consumer does not know he is using honey. If the market were allowed to take its course, the beekeeping industry would have to create an entirely new market for honey after the war. Honey would disappear as a table food. The danger is real. What is perhaps the largest single sale of honey ever consummated in this country was made recently when a manufacturer, normally a non-user of honey purchased over $230,000 worth of quota-free honey.

The Government wants to retain the present beekeeping market, that honey may pay the pollination bill and that this large group of persons who make up the beekeeping industry may continue keeping bees and going about their business as normally as the war permits. Order-118 is considered indispensible to these ends.

The Use of Critical Materials

In addition to Order M-118 and the granting of the use of critical materials for the manufacture of bee supplies, the War Production Board has made available to the industry sugar for feeding bees and cans for marketing honey. If Order M-118 is rescinded, the Government will have no reason for allocating containers that honey may be sent to market, nor will there be reason for authorizing the purchase of sugar for feeding bees. Neither of these items is so important to the beekeeping industry during war times as is Honey Preference Order M-118.

The first function of the beekeeping industry in this war is to make bees available for pollination. The production of honey is important and so is that of beeswax, but they are secondary. Some fifty agricultural crops either depend upon pollinating insects or produce more abundantly when they are plentiful. Let's keep the real objectives in mind and keep the bees flying!

[The following is the transcript of what Mr. H. J. Clay had to say on the subject.—Ed.]

The Office of Price Administration came into existence to curb inflation, both present and prospective, and thus in effect to keep the national debt from spiraling faster than it will from natural causes.

Under the General Maximum Price Regulation now in effect beekeepers who sell or deliver as much as $75 worth of extracted honey a month can now sell extracted honey at prices no higher than those at which they sold in March. (Producers of comb honey in any amount, and those selling extracted honey in less volume than $75 in any one month are excluded from the GMPR and can sell at any price the market will pay.) If no sales were made in March, their selling price is that of neighbor beekeepers, or at least the price prevailing in the same area for comparable containers and basis of sale.

The trouble is that many packers and wholesalers had in March selling and buying prices far below replacement values (they were passing on to their customers the benefit of their own low costs); and so they now cannot legally pay beekeepers current market prices.

For this reason the Ohio-Michigan Beekeepers' meeting at Medina passed a resolution urging OPA to remove extracted honey temporarily from all ceiling restrictions, until proper formulas could be developed to permit of adjusting the ceilings for packers, wholesalers, and retailers, as well as beekeepers. It was felt that with thousands of beekeepers now ready to sell new crop honey, many of them handicapped by low ceilings on the part of those to whom they normally sold, the marketing channels should be thrown wide open for the time being. It was also felt that WPB Order M-118 would keep the price from skyrocketing, and that ceilings could be placed soon anyway, as soon as OPA had time to do the necessary research work.

The August 10 meeting of OPA in Washington turned down many appeals from those present that extracted honey be permitted to be sold without restriction for the present. OPA insisted on leaving the status quo until ceiling formulas could be developed. These, it was stated, would be released soon, based on ma-

(Continued on page 572)

From North, East, West and South

NORTHERN CALIFORNIA, Aug. 4

Weather: Here in the Bay Region we can boast of settled weather, occasionally a foggy morning, but clearing up before noon and then sunshine day after day. Production of surplus honey by the bees is done for the season. The commercial beekeepers have all moved to the star thistle, alfalfa, and lima bean districts. Their bees had a fine build up and were ready to produce a surplus from the first flow. This could not be said of the bees in all the districts. Many of the local bees had to build up to producing strength on the honey flow.

This great variety of condition of bees is hard to understand. One beekeeper who has the reputation of always producing a crop in the star thistle, tells us that his bees have not commenced producing, while his neighbor who has the same reputation as a good beekeeper tells us he is ready for the first extraction. The first says if he gets a light extraction he will do well and finishes with a complaint that beekeepers from a distance have overcrowded the territory. No doubt the territory is overcrowded, but in this case that cannot be his reason for a poor crop for the majority of producers in his district are expecting a fair crop. The same conditions seem to exist in the lima bean and alfalfa districts. Judging from what we can see from a distance, California will not boast of a banner honey crop in 1942. We will produce a better crop of beekeepers.

Honey Markets: It is too early to say just what the market report will be. There is some honey being offered and beekeepers seem much better pleased with prices offered than for several years past. There is no prospect for a great crop of honey so with the efforts being made by our leaders all along the line our future should be brighter.

Beeswax: The effort of all who have encouraged beekeepers to save wax is being rewarded in Northern California. We have several examples of individual beekeepers saving from 50 to 100 pounds of wax where in past years they have allowed it to go to waste. Never before have we had such careful selection of combs, the poor ones going into melters and coming out a salable product at a reasonable price.—Cary W. Hartman, Oakland, California.

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SOUTHERN CALIFORNIA, Aug. 1.

Weather: August first and the weather continues very much as it has been during June and July, dry, no rain, some hot days with cool nights most of the time with occasionally a night when a sheet was covering enough.

Honey Crop: So far as the honey crop is concerned there is little to add to what we have already told in former letters.

Aside from the irrigated sections where alfalfa and lima beans yielded a little, bees have done well if they did not loose weight. Some of our Southern California beekeepers moved to the cotton fields farther north which would likely be considered Northern California and in friend Hartman's territory. They have strong hopes of getting enough honey to pay for the long haul and we sure hope that they are not disappointed.

Market: Considerable orange honey sold at around 11 cents per pound about the time it was extracted but there has been very little activity during the past month. There seems to be an uncertainty as to just what effect the sugar situation will have on the honey prices. Beeswax is in good demand at 40 to 42 cents per pound.

Miscellaneous: Gleanings has not arrived so we cannot glean any crumbs of comfort from that source. That Southern California is dry so far as the soil is concerned no one will deny. Many beekeepers who moved to the orange left one full super of honey on their bees. This is more particularly true of the beekeeper of long experience. Seldom will he extract close trusting to the bees to fill up for winter stores. He believes in playing safe. The fellow

who has never had the experience of going from colony to colony with feed cans will avoid repeating, if possible.

In talking with men who have kept bees for many years we find more and more who express the wish that they could get on a location and stay there and avoid this "dragging" bees around from place to place trying to find a honey flow. Not that we wish to boost any other fellow's territory but we have heard some of our most successful beekeepers express the opinion that several states of the middle west have opportunities in beekeeping that they would seriously consider were they entering the business again.

Beekeepers generally have their apiaries well protected with fire breaks and although we have forestry service fire protection there is always the danger of fire. We have had a few forest fires but none of any consequence over our bee ranges.—L. L. Andrews, Corona, Calif.

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TEXAS, August 3.

Weather: July was normal for much of Texas. Throughout the northeastern portion of the State honey flows were reported. In some places the reports show that the honey crop will be normal. In some sections beekeepers were moving their bees to escape cotton poisoning. The first week in the month heavy rains occurred through much of the southern portion, and while no heavy flows have been reported following the unusual amount of rain for midsummer, the bees everywhere have made more than a a living from the field. The amount of brood at the end of the month is much larger than usual. This is very advantageous to the beekeepers who intend to increase the number of colonies in hopes of making their contribution to war supplies by a heavy increase in beekeeping in 1943.

Miscellaneous: Demuth's statement that the beekeepers' New Year commenced in August is very true in Texas. Most beekeepers have much empty equipment. With bees in the present condition this equipment can be filled during the next three months and with attention the bees should be in good condition for next spring. With the amount of moisture in the soil at the present time all honey plants should thrive all over Texas and beekeepers should take advantage of this combination of bees and plants to make plans for a much greater production of both honey and beeswax for 1943.

Most Texas commercial honey producers use nine frames in a ten frame body. In extracting they secure as much honey as they would in using ten frames and a great deal more wax. If you have not adopted this practice do so next spring. You will be surprised at the amount of wax which you get during uncapping time.

This winter is the opportune time to do that long delayed work on old frames, hives, and those odds and ends of beeswax that accumulate around any extracting plant or room used for storing bee equipment. The price of wax is ample to induce anyone to clean up and greater than the price will be the service which you are giving in making your beeswax available for commercial purposes. As a beekeeper you will follow your established custom of beekeeping in saving sufficient wax for your own needs for foundation. Produce and put on the market all over your own personal needs.—H. B. Parks, San Antonio, Texas.

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VANCOUVER ISLAND, Aug. 4.

Weather: Vancouver Island experienced a late, cold spring, though there was not much rain; the rainfall being below the average for the time of year. However, the cold winds prevented the bees from getting out for pollen, and brood-rearing was curtailed. Sugar feeding had to be continually resorted to, so that the bees would not starve. There is no doubt some of the newcomers in the beekeeping field will have lost their bees, because of failure to recognize the abnormal season. Queen breeders in California were hindered from forwarding queens, except during a short warm spell in early April, so that altogether it was a time to tax the patience and ingenuity of most beekeepers.

However, on July 16th there was a good downpour of rain, which was followed by (so far,) an unbroken spell of good bee weather. White clover and fireweed are good, and the bees are in excellent condition, but it is doubtful if many hives will do much more than build up for the winter. It is rather early to predict

the size of the crop, but most agree that about half the usual may be expected.

Market: The sugar rationing has brought an increased demand for honey, especially in large quantities. The 12 and 16 oz. jars seem almost a thing of the past, and the usual requirement is for the 4-lb. size. Many people are having honey brought to their attention as an everyday article of food, and it is hoped that beekeepers will take advantage of the present situation to prepare and market a product which will establish the use of honey, even when the present emergency is forgotten.

Miscellaneous: There does not appear to be any reports of disease on the Island. As usual, beekeepers from other districts have brought in their hives to the parts where the fireweed is good, and they may do well, as the bees do not have to travel far for their nectar.

Prices: Are about the same as last year, and at present there is no restriction on quantities to private consumers.—Mrs. M. Maynard, Lake Cowichan, B. C.

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SASKATCHEWAN, August 5.

Weather: Weather conditions over most of the province have continued cloudy with frequent rains. Rain which was welcomed during June and which caused rapid growth in crops and in fields of clover is continuing and proving a serious handicap preventing bees from getting out to work on the profusely blooming fields of clover which one finds most everywhere in the province this year. After some years of extremely dry weather, it seems odd to be complaining about rain but this season the rain, if it continues, will be just as disastrous to beekeepers as was the dry weather of previous years.

Crop Outlook: Colonies are in good condition throughout the province and if two weeks of dry weather were secured now a good crop could still be harvested in Saskatchewan, but if cool, rainy weather continues it will be a less than normal crop.

Market: The honey market is bare of honey at the present time and with a short crop in prospect, top prices should be secured. Of course, the price ceiling legislation will prevent retailers or wholesalers raising their prices but there is no price ceiling for producers selling direct to consumers. Those who have to sell to the retailers and wholesalers will be able to ask the maximum price possible under the price ceilings controlling such dealers.

Miscellaneous: Package shippers did a good job in supplying the increased demand for bees last spring. Many of them were working under unfavorable weather conditions but got their shipments off without too much delay.

Generally speaking, packages shipped under unfavorable conditions or package queens raised under such conditions are not fully satisfactory and this was the case this season. Heavy queen supersedure has been experienced and packages superseding their queens are almost always a total loss.

There is a great variation in results obtained from bees secured from different shippers. Some shippers seem to be able to ship good bees and queens which do not supersede in favorable shipping seasons or in unfavorable shipping seasons. Bees from other shippers are almost a total loss in poor seasons. This indicates that much can be done to improve the methods of some shippers.—R. M. Pugh, Fort Qu'Appelle, Sask.

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WYOMING, August 4.

Weather: This most important factor in beekeeping has been very erratic. The increase in precipitation, more snow and rain than for some years lent no small amount of encouragement in the early spring months, but cool windy weather lasted until the latter part of June and much feeding was done. When the weather finally warmed up it turned so dry and hot that crop prospects depreciated rapidly. In the last week we have had more rain, which it is hoped, will revive the flow.

Condition of Bees: There is a shortage of field bees, caused by the cool weather, and many colonies running short of stores. There was very little swarming. Some loss of brood due to chilling and difficulty in queen introduction were among the spring prob-

lems. One beekeeper told me he never saw spring dwindling so bad.

Honey Crop: Unless we have a good flow from second crop alfalfa through August, production in this area will be considerably below last year. Bees have barely made a living the last two weeks.

Honey Market: It is indeed enjoyable to experience such a willing market as now exists for our product. After being entirely out of honey for a couple of months it is a real pleasure to be able to supply old customers from the first extracting along with a number of new ones occasioned by the shortage of sweets. Locally we have striven for an even price of $9.00 per dozen on five-pound pails with most merchants taking a mark up to 89c for the retail trade. More than likely this figure will need a revision a little upward in view of carlot price, there being not enough spread between to cover freight, containers and packing costs to say nothing of brokerage and a profit for the bottler. However, this figure seems almost revolutionary considering the retail price of 35c that obtained in many places last winter.

Miscellaneous: Now is the time to prepare for the slump that will come when the present gold run is over by acquainting the public with the real merits of honey as a food, and while we may each do a little of this independently our best agency is the American Honey Institute.

We have had one of the most complete clean-ups on old crop honey this season since I have known bees and honey. Nearly every store has been without any honey for a month or more until the new crop began to be extracted. — Earl C. Reed, Ranchester, Wyo.

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UTAH, August 4.

Weather: The weather in the eastern and the northern part of Utah has been favorable for nectar secretion — enough rain to keep the plants growing, yet not enough to cut down bee flights for more than two days at a time. The Delta area and most of the southern Utah counties, however, have been too dry for honey production.

Crop: Most of the large honey producers who moved from California to Delta in June have now either moved out of Delta or given up hope of getting a crop. Those who moved out of Delta to northern Utah and the Uintah Basin are getting a crop but not as large a crop as those who were already situated in these areas.

The honey situation in Utah has been improved considerably by the sweet clover which Governor Maw, in compliance with solicitations of bee men and the Agricultural Commissioners, has requested to be left growing along the state highways.

Market: The quality of this year's crop is excellent but little has moved up to this time. Extracting is just getting under way and only one or two large producers seem to be in a hurry to sell. Judging from can purchases, a good many producers intend to pack in 10-lb. pails. This will not harm the market if the bee men will strain and settle the honey carefully and if they will keep dark, low-grade honey out of these pails and turn it into the proper manufacturing channels. Those who haven't the facilities for starting and settling and blending properly should not attempt to pack in ten's but should sell to the packers in sixty's.

Miscellaneous: The bee men in the central and southern part of the state complain of a small fly called the Thrip or Kelsey fly which saps alfalfa blooms of most of their nectar. These flies fall into the hand by the hundreds when shaken from a cluster of bloom.

Disease: 1942 has been a bad disease year. Many apiaries are now showing the effect of the neglect they received during poor-crop, low-price honey years. Lots of robbing was allowed to spread disease up until this spring. Much old equipment is changing hands and aggravating the disease hazard.— William Moran, Salt Lake City, Utah.

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ILLINOIS, August 8.

Weather: Illinois may now be listed with those states and countries having what is known as "the rainy season". The sad part of it is that these rains have played havoc with our clover honey flow. Bees and honey plants came through the winter and spring in fine condition. The winter loss in bees was only three per cent. Honey

plants were rated as 125 per cent normal. A good flow from dandelion in May gave colonies enough storage that feeding was unnecessary. This was a great saving since many colonies were getting very low on honey. April and May were about normal in regards to rainfall, temperature, and sunshine. Everything pointed to a good honey crop. During June, it rained every day except about four. During the first half of June, the bees would fairly pour in and out of the hive during the sunshine between showers. This nectar would, however, be used up during the next few days of rain.

We have what we call our "weather book". This is not a true title since other interesting items are recorded besides the weather. We refer to the book quite often for a comparison of honey flows, rainfall, temperature, and many other interesting entries. This book was started back in 1911 and will give some very good data. Looking back through the pages, we find 1927 was very much like this season up to the 23rd of June. For June 23, 1927, we read "the honey flow looks as if it will fail". It did not fail, but turned out to be a banner year. On July 11th, of that same year, we read "supers in shop getting low." We hoped that this season would turn out as did '27, but it did not. It went from rain to more rain; from bad to worse. The entire State this year has suffered from too much rain. This is the first of August and the rains are still here.

Prospects: The prospects for a good crop from heartsease are the best in years. It really should be a good crop, if for no other reason than to compensate the beekeeper for losses during the clover season. Rains have prevented the farmers from cultivating their corn sufficiently to get rid of weeds, and heartsease was one of these weeds. We have an extra large acreage of soybeans near and they have their share of heartsease. These beans will not be harvested until long after the honey flow is over. Our apiaries are located out of reach of asters and other late blooming plants and heartsease is our last chance.

The rains have given this spring's planting of clovers an excellent start. Alsike and sweet clover, which were sown with the oats this spring, have made very good growth.

Miscellaneous: Many of our beekeeping problems, coming up now, make us scratch our heads for answers. While many people were neglecting their bees for good jobs at high wages, other people were making a stampede to get into the business. I have been called from bed, from breakfast, lunch, and dinner, stopped on the street, flagged down on the highway, and deluged with letters, cards, and telegrams on how to start in beekeeping. Many of these people must be discouraged in every way. Others must be encouraged. To differentiate between the two groups is sometimes a problem. It does give us an advantage by giving instructions on proper equipment and management. Many wanting to start were only interested in sugar, but not for feeding bees.

I was very sorry our State Fair was discontinued for one reason, it gave us an ideal opportunity to reach the public with information on honey. Our State is still having the County Fairs and we can use these fairs for this same purpose. Horse racing, ball games, and boxing contests have been recommended for the morale of the people. Our State was requested to stop all fairs in order to conserve rubber. Farmers and beekeepers in our rural communities work eleven months and twenty eight days and look forward to the other two days for relaxation, this relaxation to be at the County or State Fair. It is really the best morale builder our people could have. We deserve it and these fairs should be encouraged. We cannot attend ball games, boxing contests, and horse races, but we can and do love our fairs. A honey exhibit and information booth there will reap its reward long after peace is here again and sugar can be had by the bag instead of the spoon.—Carl E. Killion, Paris, Ills.

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INDIANA, August 5.

Weather: Very little clover honey will be harvested this year in northwest Indiana. Cool, cloudy, and rainy weather throughout the greater part of June has kept the bees from flying. Basswood bloom was almost a complete failure and during the hot dry weather of July the bees have done little more than make a living from

sweet clover. In lowland areas there should be a considerable amount of fall honey if weather conditions permit, but in the uplands the outlook is not so good. Recent heavy rains will, no doubt, help the fall crop.

Prices: Apparently there is now no old honey remaining in the hands of producers in this locality. Prices of honey sold to grocers run about 75 cents per 5-lb. pail, 18 cents for 1-lb. glass jars and about 12 to 15 cents per lb. in 60-lb. cans, depending on quantity sold. Pails are retailing at 85 to 90 cents and jars at 25 cents. These prices would seem fair, giving the producer some profit and yet not so high as to discourage prospective buyers. New comb honey should bring as much as honey in 1-lb. glass. Some grocers here have been retailing it during the last two years at prices less than any Indiana beekeeper can afford to produce it, namely at 10 cents for No. 1 and fancy, cellophane wrapped. This is little more than the necessary cash outlay on the part of the producer.

Miscellaneous: There have been many beginners in beekeeping this year, probably because of the prospective shortage in sugar. Some, no doubt, will be doomed to disappointment. Those purchasing package bees may find it necessary to do a considerable amount of feeding if these colonies are to be successfully wintered.

Beekeepers hereabouts report the usual amount of swarming. Among our own bees there have been no swarms although all colonies have been exceedingly strong throughout the season.—E. S. Miller, Valparaiso, Indiana.

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VERMONT, August 4.

Weather: In contrast to weather in most of the U. S., it is again a dry summer in Vermont. While we did have occasional showers in many parts of Champlain valley, near the Lake it is too dry. We would appreciate some of the moisture from the mid-west areas. In most places there have been enough showers to make a record hay crop in the country, meaning an abundance of clover and alfalfa.

Honey Crop: Another Vermont honey crop come and gone, (or going), and it has turned out to be a better than average season, meaning an average crop of about 100 lbs. per colony which is very good for these parts. This has been the average with me, but many others will not run as high. The honey flow started rather early and heavy and at the beginning of the season was accompanied by unusually heavy swarming. As mentioned by Editor Deyell, we, too, have had considerable supersedure of queens, both in established colonies and queens we bought early in the season. What with supersedure, heavy swarming, bees getting crowded, and we getting around to the yards too late with supers, it all turned out pretty well. Work now is reduced to the procedure of making sure all colonies have queens and then cleaning up the extracting. Closely following this will be feeding, and packing which winds up our work with the bees, for the year sometimes in late October.

Market: Continues good. Heretofore outside honeys have sold in Vermont for half the price our honey sold for. A peculiar situation has developed where outside honey is now selling in some cases higher than our Vermont honey. We should not have any trouble selling our crop this season.

Miscellaneous: In commenting on Mr. Keet's excellent article on swarm control, Editor Deyell shows surprise at shallow supers being of some value. The surprise to me is more beekeepers do not use the shallow super for production of extracted honey, instead of the deep supers. The only advantage I've ever heard for deep supers is fewer combs have to be handled for a given amount of honey. However, my experience has been that shallow supers and combs can be handled so much faster, that actually more honey can be handled in shallow supers than in deep ones. I find the following advantages of shallow supers over deep ones. Ease of handling, queen excluders do not have to be used, supers come off much easier, faster and cleaner with the carbolic screen, combs can be uncapped faster, and can be extracted **much** faster in a radial type extractor. There is almost no breakage of top bars or combs. With us, we can extract more tons of honey in a day in shallow supers than in deep ones. Any beekeepers who do not

use shallow supers for extracting are working a lot harder for their honey than necessary.—Charles Mraz, Middlebury, Vt.

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ONTARIO, August, 5.

Judging by reports received, the majority of Ontario beekeepers know that they have the shortest white honey crop of many years—in our own case, about the smallest in 25 years. The three factors responsible for this condition are: Bees were ready for the honey flow at least three weeks before it started; very little alsike or sweet clover in many localities; and last but not least very unfavorable weather conditions. For the past six weeks we have had three or four days of heavy rainfall followed by four or five days of very cool weather with northwest winds. Then this would be repeated after about one day of warm seasonable weather that was favorable for nectar secretion.

Crop Conditions: There are, we understand, some isolated sections where a fair crop was secured, in fact, we have a few such locations, but generally speaking the heaviest producing areas in the province have a very light crop. Apiaries not far apart gave surprisingly different results. We have an apiary not far from our home that does not have enough white honey to bother taking it off. Seventeen miles away another apiary has 100 pounds per colony. We have just heard an unverified report that the western provinces are getting good crops, and we surely hope that this is true, even if our own crop is very small.

If we should get some warm weather for the next two weeks, prospects for a flow from second bloom of alfalfa are good, as many acres are in blossom and farmers are too busy with the grain harvest to cut the clover. All these heavy rains have brought on a great showing of clover for next season as in many the young clover is a foot high among standing grain. Where buckwheat is grown, the abundant moisture present augurs well for a dark honey crop if we get some real warm weather. That factor is always necessary here in Ontario before buckwheat yields much nectar. The crop is so short in some localities where no fall flow is in prospect, that sugar feeding will be necessary to avoid starvation this winter.

Market: As might be expected, the demand for honey is very keen and some thousands of pounds have left our honey house during the last few days, many orders running from 150 to 200 pounds, for family use. No one complains of prevailing prices as they are very low compared with the very high prices of fruit. Dear fruit combined with sugar rationing, makes honey a much cheaper article than the combination of fruit and sugar.

Miscellaneous: So the latest advice is to use three full-depth bodies for brood-rearing, wintering, etc. Why not make it five or six while at it, and then we would always be sure of stores for wintering, and always have a crop of honey on hand in season and out of season, even if we did not realize profit on it. Seriously speaking, we wonder how tiering up would be done in good years when it is common to have three and four supers on colonies, with five on some of the strongest. A few decades ago, Heddon and some others went to the other extreme in advocating very small brood chambers and we venture to predict that we are going to the opposite extreme today. We have bees in 8 and 10 frame L. hives, 8 and 10 frame Jumbo hives and a few in 12-frame Jumbo hives.

In the 25 apiaries we operate we find little difference in results as to yields, one year with another, though, of course we have to adapt a little different management to the different apiaries. But never do we recall having apiaries too weak in the fall for good wintering. In fact, we often wish we could get rid of many pounds of old bees if it were possible to do so. We winter a few in two full-depth bodies, several hundred in story-and-a-half hives, and the balance in single-story hives. And here again we see little difference in so far as colony strength in the fall is concerned. We are not disputing the claims of others as to their experiences but we certainly know that medium strength (**not weak**) colonies supplied with an abundance of good stores, will in our locality and without perhaps faulty management, give us uniformly good results one year with another. —J. L. Byer, Markham, Ontario.

American Honey Institute News Notes

NEW MATERIAL!

A brand new leaflet to fit the cover of the 5-pound pail is now ready. Because the **Institute** has had so many orders that it could not fill for the 5-pound pail leaflet, a new leaflet has been prepared. A sample may be had for the asking.

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A NEW BOOKLET!

"Honey Treats"
for Sweets
for Energy
for Conservation

"Honey Treats" is an attractive 3 x 6 inch, 32-page booklet with practically all new recipes. The booklet is in blue and white. As soon as it is off the press a copy will be mailed to each member.

• • •

WINDOW STREAMERS!

Now is the time to place Honey Window Streamers in stores. You may secure these at 50 cents per hundred by writing to the American Honey Institute, Madison, Wisconsin.

• • •

In one mail today we received a timely release by "Spry" on " new packables". This release contains a recipe for lunch box cakes made with honey and a recipe for Whole Wheat Doughnuts with honey - "A wholesome duet - whole wheat flour and honey".

• • •

A release from a national food organization was in the same mail. We find Honey Biscuits, Honey Bran Muffins, and Honey Cocoanut Drops in this release.

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Another release features Honey blended with snappy, yellow cheese spread for sandwiches and still another release features "Honey Delights", with a picture of these good looking cookies in color.

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A number of radio stations throughout the country have asked for and received the leaflet entitled "Use Honey for Canning and Preserving" for their listeners. Another radio station has asked its listeners to write to the **Institute** for this leaflet. Many requests are coming in by air mail. It is our members who have made it possible for the **American Honey Institute** to furnish this material.

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A number of the American Red Cross and nutrition classes are also using this leaflet for their canning work.

RECAPPING OF TIRES

Office of Price Administration
State Office
68 E. Gay Street
Columbus, Ohio

August 10, 1942

Ohio State Beekeepers' Association
Attention: Mr: Lloyd C. Gardner
139 W. William Street
Delaware, Ohio

Gentlemen: We acknowledge receipt of your letter of August 5, 1942, referring to our previous correspondance in regard to the eligibility of beekeepers for recapping services. You state that it is your opinion that beekeepers are eligible under List B (a) (3) for recapping services for passenger automobiles when such are used exclusively in the transportation of themselves and their labor between their homes and points of operation.

In reply let us say that in the event an applicant can show that his services are of a nature which cannot reasonably be performed at a fixed place or at regular hours; that the same are performed at an agricultural establishment; are essential to the war efforts; and that the applicant meets the other tests as set forth in the Regulations, he is eligible for recapping services.

If he meets the above conditions you are correct in stating that beekeepers are eligible. If you will refer to our last letter to you you will find that we were speaking about tires for a person who only works part time as a beekeeper and wants to supplement his earnings as such by working part time at the carpenter trade. We stated that it was our opinion, and hereby reaffirm it, that the use of an automobile in connection with carpenter work would make the applicant ineligible for recapping services even though exclusive work as a beekeeper is within the perview of the rationing order.

Nothing in this letter is to be construed as a blanket endorsement of all applications that may be filed by your members or any other beekeepers. Each and every applicant must file his application in writing with his own Local Board and each Board must consider the individual case upon its own merits. The Boards are furnished with Regulations and Guides are where the applicant shows that the facts in his case meet the tests he will be issued certificates for necessary recapping services.

In the event the Local Board refuses to issue certificates the Rationing Regulations provide for the right of appeal to the State Director in accordance with the provisions of Section 901 and following

Very truly yours,
James W. Huffman
Chief State Attorney
By: Kenneth V. Nicola
Chief Rationing Attorney

A Symposium

on Methods of Wintering Bees in the North

Conducted by the Editors

Our readers seem to enjoy a Symposium. The word comes from the Greek and means literally a drinking party, a feast, one marked by a free interchange of ideas treating a common topic. The word also means a collection of short essays by different authors on a common topic.

It is hoped that the participants in this Symposium, even though they may not see eye to eye and may perhaps disagree radically on some points, may be willing to set aside, if need be, some preconceived ideas or opinions in order to arrive at Truth. We cannot hope to arrive at Truth unless we are open-minded.

The problem of wintering colonies of bees successfully, especially in cold climates, has not yet been entirely solved. Since beekeepers have begun to learn how to produce populous colonies by furnishing an ample amount of good combs for brood-rearing and reserving an abundance of stores (honey and pollen), the wintering problem is not so difficult as it was during the era of small colonies in the fall when brood chambers were contracted during the honey flow in order to force the bees to put honey in the supers, and when an inadequate amount of honey was left with the bees during the fall months to insure normal brood-rearing. It is little wonder that many such small colonies perished during the winter, even though they were given adequate protection against cold weather.

Obviously there are some factors connected with successful wintering that are not yet well understood and until we know more about these factors we will attain only mediocre success in wintering.

Our senior editor, E. R. Root, who has had many years' experience and has travelled over the continent extensively to contact beekeepers, will now open the subject:

Packing vs. No Packing of Hives

By E. R. Root

Senior Editor of Gleanings in Bee Culture

There are two schools of thought on this question, one favoring heavy or excessive packing, the other light or no packing.

The writer has traveled all over the country not once but several times. He has interviewed beekeepers East, West, North, and South, and he finds among authorities an honest difference of opinion. That difference is based on average winter temperature in the locality and the presence of excessive, mild, or no moisture during the winter. The division of opinion is based almost entirely on these two factors, or, to put it into one word or factor, locality.

Gleanings has taken the position and still holds it that whatever method or plan gives excellent results year in and year out in a given locality, that plan should be followed but if there are winter losses, heavy or light, then examination of the factors of the locality should be studied carefully.

As the pages of Gleanings will show, and "The A B C and X Y Z of Bee Culture," "Starting Right with Bees", and other literature, we have never argued that packing is of no value **if** and **where it is needed.** Notice the emphasized words. Obviously a locality where the temperature ranges around zero, dry packing is indicated, or perhaps better, cellar wintering, provided temperatures in the cellar can be controlled to approximately around 45 degrees F., and provided sufficient ventilation can be afforded. Where weather conditions are such that the temperature ranges above freezing, above and below at times, throughout the entire winter, then it is a question whether packing costs more than it is actually worth. There are many localities in the North where this is probably true. To be more exact, the value of packing should be measured by the dollars earned by the colony for **the entire season covering a period of years — not on the mere question of whether stores are saved.**

In localities where the temperature plays around above and sometimes below freezing, moisture may be a very deciding factor in whether one shall pack or not. Usually packing material in such localities becomes damp and ultimately freezes, and that is the reason why the upper entrances have come into prominence of late, to release that excess moisture. In this connection it is proper to note that upper entrances (not top entrances), are becoming more and more in favor all over the country, especially in localities where moisture predominates.

It should be noted that an entrance clear up to the top may let off warm air as well as moisture while an entrance down two or three inches in the top super will leave a strata of warm air, and yet let most of the surplus moisture escape.

It is also interesting to note that more attention is being paid of late to the internal condition of the colony, size of cluster, in a two-story

hive whether made up of young or old bees, age of queen, quality of the stores, **and the amount of pollen.** In this connection, some beekeepers say they get along very well without pollen, not knowing, of course, that pollen is generally covered up with a thin layer of honey to protect it. If the bees can have their own way, the outside combs will contain considerable pollen where it is available in the fall, and unless one is careful to dig deep into the combs, he may conclude there is no pollen present, while an abundance of it **is** there. In years gone by it was considered necessary to eliminate all pollen and feed sugar syrup. Now practically all authorities agree that plenty of pollen gathered mainly in the fall and stored in the combs, a reserve of from 50 to 60 lbs. of good honey, young bees, and young queens are essential and very important factors in the wintering of a colony of bees whether packing is applied or not. The importance of windbreaks on the North and West are being stressed.

Right here some very careful work, done by Dr. Farrar, now of Madison, Wis., but then of Massachusetts, showed that the internal atmosphere surrounding a colony of bees was only slightly higher where packing was present than in the hives with no packing. Let it be admitted that there will be less consumption of stores (other things being equal) when colonies are packed than when they are not. We do not believe there is any question on that point, but the question is right here—if a further consumption of stores means more brood and young bees during mid-winter to take the place of those that die off, then we have made a good trade.

Some Stubborn Facts

Now here are some facts observed by the writer on extended trips all over the country. In the far West and in the Rockies where the temperature plays around zero, and below, it is very dry and little or no packing is used and yet the fact remains that when these bees are supplied with an abundance of stores they do winter and produce carloads of honey. The writer believes that in these localities a moderate amount of packing may be useful. The amount will have to be determined by comparative experiments. We are inclined to believe, however, that where the temperature plays below zero much of the time during winter, a good cellar where temperatures can be controlled is preferable provided proper ventilation is afforded and temperature held very closely to 45 degrees. The consumption of stores in such a cellar will be about half what it would be if the bees were heavily packed outdoors.

Recent trips over the country have shown most conclusively that many large honey producers are using in cold localities either a single thickness of slater's felt around the hive with upper entrances, or the same slater's felt with a thin layer of packing material, usually of straw or dry leaves. Planer shavings or sawdust gather and hold too much moisture, so should not be used.

Up in Minnesota the winters get mighty cold at times. Let's hear what Edw. Trimble of Warroad, Minn., has to say about wintering bees in his section of the state:

Wintering in the Far North
By Edw. Trimble

Here is contending that there are as many different ways of preparing bees for weather in winter as there are different winter climates.

Winter in extreme northern Minnesota, for instance, is far different than in the states protected by the oceans or lakes or in the states farther south. I do not wish to say that it is or is not harder to winter bees here or that it takes more skill, or more stores even, but it is different, that's all; and it seems reasonable to expect that methods for preparing for our set of weather conditions should be just as different from that found suitable in other places as is our weather.

A beekeeper here may well prepare for the worst that is reasonable to expect. It is quite to be expected that the bees stand a poor chance of any flight from late October until April. Also five or more consecutive weeks of below zero has been known in the past so should be figured a possibility, and it takes more than 40 below zero to be uncommon. Also, in our particular section, the honey flow is generally over with by August 10.

Under these conditions most beekeepers use either a cellar or packing with top entrance.

Most of them would also be greatly worried to find more than a spot of brood by January 31st. In fact, some think it to be actually easier and less costly in stores to winter bees in this section than in sections where heavy winter brood-rearing takes place.

Do you wonder that Mr. Norgren in unprotected, windswept South Dakota takes a swat at the no-protection bear, while Byer of Ontario applauds from his attic perch? They both live in sections of the country where winter means a severe set of conditions, though you will note that they both do winter bees with methods they have designed to meet these conditions.

Warroad, Minn.

Five consecutive weeks of sub-zero weather is a long time for bees to remain clustered tightly, as they would have to be during such a protracted cold spell. We would be tempted to try cellar wintering in that region, provided the cellar could be properly constructed to prevent the temperature within the cellar running too low. The writer wintered bees in a cellar in northern Michigan during the winter of 1917-1918. At one time during a cold spell the outside thermometer registered 42° below and the thermometer in the cellar registered 42° above—a difference of 84 degrees between outside and inside temperatures.—Ed.

We will next hear from A. H. Gates of Garfield, Washington:

Wintering Outdoors in the State of Washington

By A. H. Gates

[This article received Feb. 13, 1942.—Ed.]

I have been reading with interest the different ideas about beekeeping, in Gleanings. The ideas I am setting forth may be some of "these wacky ideas." However, they are not entirely unorthodox.

After all, don't the results you want to obtain determine your procedure? For instance, the man who wants strong colonies in the spring so that they can be divided about May 1st winters differently than the man who wants his colonies not so strong, so that he will escape the swarming difficulty? Shall we, or shall we not, encourage winter brood-rearing, is also answered by the above.

I presume that after a man has kept bees for some time he settles on a method which suits his purpose best, regardless of what the books say. The other fellow's ideas are interesting, though, even if we do not agree with him. For a long time I read three bee journals, and at present am reading the two leading bee journals. So you see I do get a lot of ideas.

Shall we put the bees in cellars, pack heavily, pack lightly, or not pack at all, is also being very much discussed. Some of the men who have had failures by using the methods other men have found satisfactory, lay themselves open to a comeback. For instance, I have just finished reading the article in Gleanings for February, by Mr. J. L. Byer, of Markham, Ontario, Canada. He says that earlier in his career he tried wintering a dozen colonies by wrapping them in building paper. Along in January he was kept busy digging the ice out of the entrances with his pocket knife. Loss, 100 per cent. If I am not mistaken, Mr. Byer is one of those chaps who winters in a single eight-frame hive body. I can hear the light packing men come back at him with, "You could have expected nothing else. What you should have done, would have been to use two ten-frame hive bodies, lots of stores, chockfull of bees and a **top entrance.**" Of this one thing I am sure: Had he used a top entrance he would not have had to dig the ice out with a pocket knife. I have always found the mild winters harder on bees than the severe ones.

In this matter of comparing losses of colonies, packed and not packed, one must be careful in just how much shall be blamed to packing or the lack of it. The man who packs his colonies at least shows some interest in his bees. He is more than likely a fairly good beekeeper in other respects also. Now the group which does not pack, not only includes some good beekeepers, but also the whole bunch who sin, not only in the matter of packing, but in a lot of other ways also.

In order that this article may not become too long, let me state briefly, that I use two ten-frame hive bodies, a top entrance, bottom closed, lots of stores, especially pollen, lots of young bees, wrap hives in tar paper, and put leaves or straw around the bottoms of the hives to prevent drafts under the colony. I divide colonies May 1st, and unite them again in the fall. No winter losses.

Of course, the thing that determines whether a method is good or bad is the honey in the cans at the end of the season. Well, comparing my crops with the crops of other men in this territory, I have come to the conclusion that this method is all right.

Our climate is comparable to that of Iowa and Missouri.

Garfield, Wash.

[Mr. Gates' method must be satisfactory for his state, as his colonies are strong enough to divide by May 1.—Ed.]

(to be continued)

Spinster Jane Says

Honey harvest is over, so far as clover honey is concerned, and it has been a bountiful one for our apiary. Some combs, left overlong for lack of time off to extract them, contain a bit of the darker honeys, as goldenrod and fireweed flourish, and there are still acres of buckwheat in bloom. This slight added tang of the stronger kinds does no harm. If anything, it adds to the flavor and many speak of its delicious taste.

Only yesterday a girl called for a pail of honey, and laughingly said, "Your bees come up to our place and take honey from our buckwheat, and we must pay you to get it back."

No one can feel sure of a bumper yield of honey, no matter how many acres of clover there may be sown. The poor beekeeper is surely "the creature of circumstance." Much depends upon the temperature. If too cold, bees do not work so well. If too hot, nectar-bearing plants become parched and yield little nectar. If too wet, bees cannot work. If gale-like winds prevail, it means drifting and loss of our essential workers.

Never before have we seen such a demand for honey, due mostly to sugar rationing, without doubt. It is selling like those proverbial hot cakes, and the local demand will far exceed our supply. Where people once ordered a couple of small pails, they now clamor for 50, 75, or 100 pounds, and they are trying to corner the later supply of dark honey before the other fellow can get a chance. Our later honey should be better than usual. Boy left about 500 pounds of clover honey in the hives, to be extracted with the later kind.

The storekeepers want honey, and we have given them some, but why should they make an extra profit from the users, when all come to the farm to buy, saving us gas for delivering, as well? One grocer told us he sent out for a case, and the honey all soured on him. We told him it could not have been properly ripened. Perhaps had not been properly capped before being extracted. Such honey will not keep. Here again is proof that it pays to sell something good, rather than an inferior article. Though turning it into money more quickly, there will be no repeat orders. A fine article, one you can guarantee, pays best.

Boy got a letter the other day, at his home address, and to make sure the right one of the family got it, the sender had written in one corner, "Honeyman". It seems with the growth of his yard, our Boy has become a Man. Well either way it's a fine name. Much better than "Grouch" or "Sour Puss."

We are selling at the same price as last year, 15 cents per pound, if the purchaser furnishes his own container. All understand the shortage of tin, so willingly pay for the pails if we furnish them.

And that small colony we saved from starvation last spring? It produced 50 pounds of fine clover honey, but the queen, bless her brave, undaunted heart, has been superseded. She was over-worked and damaged, so Boy mercifully destroyed her, and they reared a new young queen to succeed her. A child of such a mother must make good.

This summer, for the first time, we have had a big loss in introducing new queens, into package bees. We had felt rather puffed up over our success every year, while so many had failed, but this year were taken down a peg. In more than a dozen cases, the colony would have none of the queens we offered. Perhaps they were the losers in the case. Perhaps they were actuated by prejudice or jealousy. But there it was, whatever it was. They were satisfied when given our home-bred queens, accepting them willingly. In some cases they were given the queen-cells to rear their own. Bees seem to have uncanny wisdom, and just any queen didn't suit them.

Our experimenting with honey in baking goes on, and we have found two more things in which it just suits our taste. One is in bean pickles, using a mustard sauce, honey-sweetened. The other is in Ice Box Cookies. Yum! Yum! But they are good, and they keep moist. Will give recipes to anyone wanting them, but tastes differ so we are trying things out ourselves before telling others.

We hope using honey because of necessity may make a honey-minded people in the years to come. A healthier race must result.—Spinster Jane.

Talks to Beekeepers

By M. J. Deyell

Rain! Rain! Rain!

As I get around among beekeepers here and there at conventions, one of the topics I hear discussed has to do with nectar secretion, or, perhaps, I should say lack of nectar this season. Never in my beekeeping experience have I seen a season like this one. In this vicinity it has been necessary during June and July to feed bees in a few of our yards to prevent starvation. In Western Ohio where we have some commercial apiaries the bees have stored some surplus, but not a normal crop.

It seems apparent that the crop shortage has been due largely to unfavorable weather conditions. To secure a good crop of honey there should be an abundance of nectar and pollen plants, also favorable weather which means a wet growing time and a reasonably dry blooming time. A wet spell of weather during the blooming of honey plants causes growth in the plants and this interferes with normal nectar secretion. Most of the clover region has had too much rain and cool weather.

"Where There's Life, There's Hope"

At present (this is Aug. 13), there are thousands of colonies in Eastern Ohio with practically no honey in the brood chambers of the hives, to say nothing of supers. Unless we get normal weather and a crop from goldenrod, aster, and other fall plants, many colonies will perish this winter.

I recall one season, 1930, that was somewhat similar to this, but not nearly so bad. The fore part of August found colonies with very little honey to live on. We had visions of buying a large amount of sugar for fall feeding. On August 25 we had about two inches of rain. Two days later a honey flow from goldenrod started. The scale hive gained 75 pounds in five weeks. We extracted over 15,000 pounds of honey from apiaries around Medina.

Last fall the goldenrod flow started September 4 and was followed by aster which lasted until October 10. Colonies stored a 50-pound surplus.

And so, the beekeepers in regions where fall honey plants are abundant should not give up hopes of securing at least enough honey to fill up brood chambers and food chambers and perhaps some surplus. The copious summer rains have brought on a rank growth of fall plants and if the weather turns warm and rain stops falling we may yet get some surplus. We never know until the very close of the season what will happen.

Honeydew

Just yesterday two beekeepers, one in Connecticut and the other in Massachusetts, each sent us a well filled section of what at first glance appeared to be honey. One beekeeper said he secured five full section supers from one colony and the other secured two. The one who got five supers thought he had an unusual kind of honey. A further examination showed that the sections contained honeydew which is a sweet glutinous liquid excreted in large quantities on the foliage of plants, usually by plant lice or aphids. Honeydew contains a high percentage of dextrin gums which make it unsuitable for winter bee food. It may be used for bee food during spring and summer. Honeydew usually appears in hives during poor seasons. It has a muddy color and the flavor is not very pleasing. It seems quite probable that honeydew may be common this season in some regions, especially throughout the East.

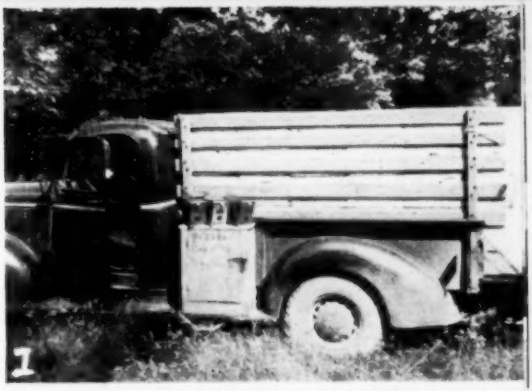
Apiary Management In September

When bees are working well, September is a good time to give colonies the final check. Any poor queen found should be replaced with a good one. It is usually easier to introduce a queen late in the fall than it is earlier in the season. Bees appear somewhat less active. They seem to know that the season is drawing to a close.

It is inadvisable to tamper too much with the brood chamber in the way of changing the arrangement of combs. Bees should have a chance to arrange the honey and pollen in their brood nests to their own liking, and when man interferes he may spoil the plan of the bees.

For example, bees store pollen in combs from which the last brood of the season emerges. The cells are usually half filled with pollen, then honey may be placed on top of the pollen. This arrangement is ideal in that the pollen stored away and packed into the cells is available for

the bees the following spring as the honey is consumed. What a marvellous arrangement and how it helps to insure an abundance of pollen for future brood-rearing.



1. Side view of ¾-ton Chevrolet truck that holds 70 deep supers of empty combs.

Let the Bees Feed Themselves

Bees will feed themselves if given a chance, when conditions are favorable. Some beekeepers are so greedy for honey that they take away a part of what rightfully belongs to the bees. Of course, colonies left short on stores perish during the winter. It is safe to say more bees are lost through starvation than from any other cause.

A beekeeper who leaves a full depth super of honey (called a food chamber) with each colony, in addition to the amount of honey that may be found in the brood chamber, is not likely to have starving bees in the spring. This means wintering each colony in a two-story hive.

2 These helpers are ready to put supers on hives.

A Handy Truck

Beekeepers with out-apiaries need a truck to haul empty supers to outyards, and full supers of honey to a a central extracting plant. The ¾ ton Chevrolet shown in the picture is very convenient. We built the body which holds 70 deep supers with empty combs. It will carry about 50 filled supers. The floor of the truck is near the ground. We have a larger 1½-ton truck with a stake body which hauls a larger load. However, we use the smaller truck most of the time. Note the tool box fastened to the running board. This is convenient to carry smokers, hive tools, dinner buckets, smoker fuel, etc.

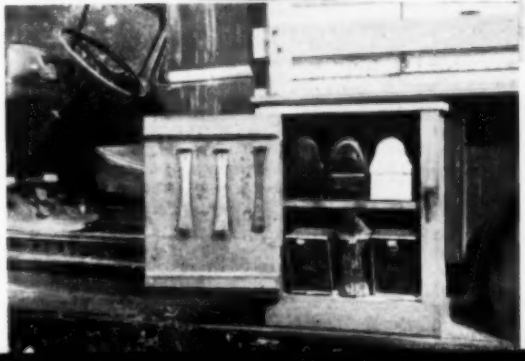
3. Side view showing tool box fastened on running board.

When Rubber Gives Out— What Then?

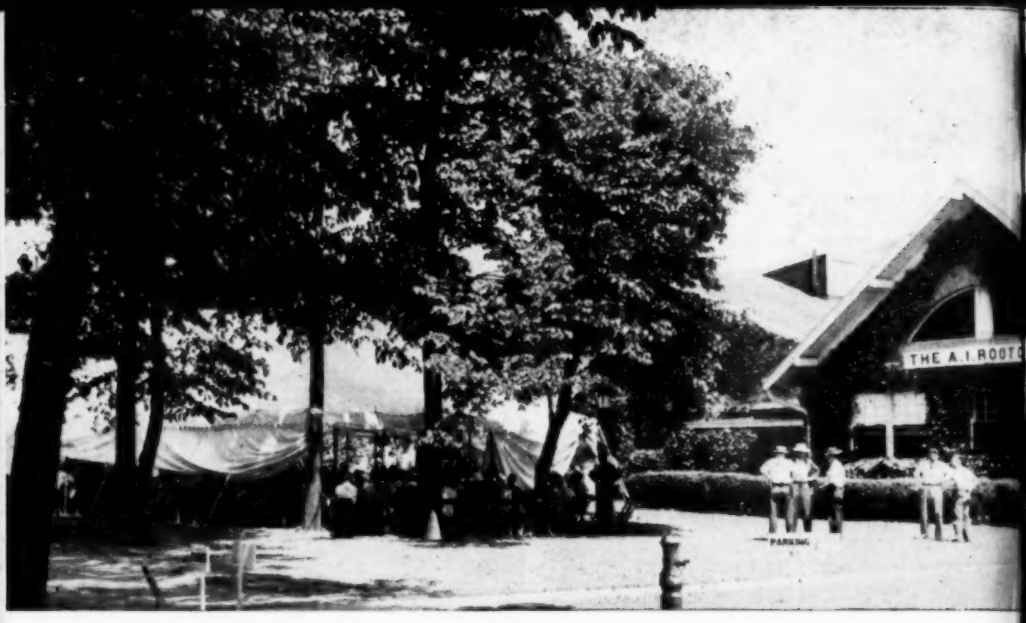
We naturally look ahead and wonder what will happen to out-apiaries when the present tires wear out. Perhaps the government will want pollination, honey, and wax so badly that beekeepers will have consideration.

Let us remember that beekeeping

(Continued on page 571)



4. Another view of the tool box with the door open. Note the three bee smokers, three dinner pails, also hive tools hung on the inside of the door.



Ohio - Michigan Beekeepers' Meeting

At the A. I. Root Co., Medina, O., Aug. 6-7

This turned out to be a much bigger event than the promoters, Dr. W. E. Dunhan, Ohio, and Prof. R. H. Kelty, Michigan, anticipated. While it was expected that there would be a large delegation from both states, such a crowd was not expected from so many different states. James I. Hambleton and Harold J. Clay, of Washington, D. C. were present.

While we had been having a great deal of rain at Medina, it so happened that both days were fine without a drop of rain and the weather ideally comfortable.

The capacity of the big tent, as seen at the top of the page was more than reached and some had to sit out under the trees. The registrations covered every available room in the hotels and tourist places in the town for those who stayed over night. We estimate the number was something over 300, 200 having registered, and about 100 who did not sign their names who came for one day only.

Beside the states of Michigan and Ohio, there was represented delegations from New York, Pennsylvania,

(Continued on page 565)

1. Alan Root, General Manager of The A. I. Root Co., Medina, Ohio, gave a word of welcome to visitors.

2. Lloyd C. Gardner, President of the Ohio State Beekeepers' Association, occupied the chair the first day.

3. E. C. Bessonet, Donaldsonville. La., a bee and queen producer from the deep South, emphasized the importance of quality and service in business

4. E. B. Everitt, President of Pennsylvania Beekeepers' Association, told us what was wrong with our industry. Lack of initiative and scientific study is responsible for the lack of progress.

5. Prof. E. J. Anderson, of State College, Pa., gave some late developments in processing extracted honey. He is against any method that tends to destroy the delicate natural flavor.

6. Emerson Long, Ohio's largest honey producer, said erratic weather conditions greatly reduced the crop of clover honey this season.

7. Clifford Muth, of the F. W. Muth Co., Cincinnati, Ohio, offered some suggestions for the betterment of our industry.

8. Howard Myers, a commercial beekeeper from Ransomville, N. Y., reported a short crop of clover honey in that area, but a better crop in the northern part.

9. R. B. Willson, of the John G. Paton Co., New York City, reported briefly on work done recently by the University of Minnesota on findings of Vitamin B. Complex content of honey. These findings are very important to our industry.

10. Floyd Markham, President of Michigan Beekeepers' Association, occupied the chair on the second day. He gave his method of rendering beeswax.

11. Joe Rossman, Moultrie, Ga., a producer of bees and queens, said high temperature is bad for bees in transit. An attendant now sprays packages with water in the railway express cars.

12. Oscar Schmidt, Bay City, Mich., a large honey producer and manufacturer of comb foundation, thinks one parity price for honey in all areas is not fair. Location with reference to distance from markets should be considered.

13. Dr. Howard Potter, of Michigan, in discussing "honey grading" said that both large and small beekeepers are guilty of poor marketing. Some thick honeys ferment. Some thin honeys may not ferment right away. A better description of intensity of honey colors is needed.

14. **Jas. I. Hambleton,** Senior Apiculturist of U.S.A., in his splendid talk said that if nothing had been done to focus attention of authorities in Washington on the importance of beekeeping we would not now be able to get sugar for bees, bee supplies, and tin cans. Beekeepers are apt to over-emphasize the importance of honey, which, by the way, is a luxury food. The beekeeping industry has been recognized mainly because of the value of bees as pollinators.

15. **Harold J. Clay,** Washington, D. C., discussed parity prices and how they are arrived at. The price ceiling of honey is likely to be 11.4c but the O.P.A. may puncture the ceiling. Honey and wax may yet be classed as non-agricultural commodities.

16. **Russell H. Kelty,** of Michigan, a commercial beekeeper as well as a teacher of beekeeping, sees a future for our industry. A good course in beekeeping should be offered in all colleges and universities.

NORTHWESTERN PENNSYLVANIA BEEKEEPERS PICNIC

By Bill Rowane

Assistant editor of Erie County Beekeepers' Magazine

A crowd of over a hundred, representing Erie, Crawford, and Forest Counties together with a few faithful disciples from various parts of Pennsylvania and Ohio, took advantage of the good weather to meet and discuss their common interests, on July 18, at Canadohta Lake.

Under the skillful direction of Prof. E. J. Anderson the meeting was a complete success. After the picnic lunch a colorful program introduced by Prof. Anderson got under way.

Mr. Anderson encouraged questions on beekeeping, and gave a few prompt and complete replies himself.

Next on the program was Mr. H. H. Root from Medina, Ohio. Mr. Root's talk was confined to a seven minute limit under the instructions of Brother Pancratius who intended to wear the tall hat and shunned all opposition in that direction. Mr. Root gave an interesting discussion on conditions of the honey crop in the western states and stressed the importance of beeswax in the armed forces.

There were other brief but interesting talks on beekeeping by members from different localities. The youthful enthusiasm of the 4-H boys and girls in his neighborhood was commented on.

Brother Pancratius consumated the oratorical program by giving a well received talk on beekeeping and its various phases. He opened his address with a brief sales campaign in an effort to increase the circulation of Erie County's humble bee magazine.

After the talks various contests were conducted and generous rewards were given.

The contests, awards and winners respectively were as follows:

Smoker Contest—Bee smoker, Lin Watson, Tionesta, Pa.

Balloon Contest — Box of Comb Foundation—H. H. Root, Medina, O.

Ladies Nail Driving Contest—Set of six glasses — Mrs. Ford Osgood, Pittsfield, Warren County, Pa.

Girls Balloon Contest — Fountain Pen — Shirley Smith, Tionesta, 4-H Bee Club.

Boys Bean Contest—Jack Knife—Don Smith, Tionesta, Pa.

Girls Marshmallow Race—Perfume — Catherine Brandy, Plasantville, Pa.

Boys Water Carrying Contest — Knife—Dick Pierce, R. D. 4, North East.

Boys Paper Sack Contest—Box of Marshmallows—Don Forman.

(1) E. J. Anderson, State College, Pa., addressing the Western Penn. Beekeepers' meeting on July 13, 1942. (2) Nobody hurt! Mr. Anderson demonstrating electrical imbedding of wires in comb foundation with 6-volt current from an automobile battery

MEETING OF THE IOWA BEEKEEPERS' ASSOCIATION, AT HARLAN, ON JULY 15, 1942.

Over 200 were present, including visitors from Texas, Illinois, Nebraska, Kansas, and Ohio. L. D. Taylor, Iowa's largest producer was host.

Some surplus honey is being harvested in Western Iowa as will be seen from pictures. The crop in Central and Eastern Iowa isn't so good. The picture at right shows one of six radial honey extractors in the Taylor plant, which is one of the best in the United States

Officers of the Association from left to right: Geo P. Schatz, President, West Union; Joe Herrman, Director, Manchester; Glenn O. Jones, Vice-President, Atlantic; E. A. Wetter, Director, Glidden; F. B. Paddock, State Apiarist and Secretary, Ames; Newman Lyle, Director, Sheldon; R. S. Herrick, Asst. Sec.-Treas. and Sec. Iowa Hort. Society, Des Moines.

Just News

It now seems that bee shippers, for the most part, have been able to obtain shipping cage supplies for 1943, and that they will be able to secure sufficient labor to take care of package and queen business for next season. This word has been passed on to us by Harry H. Laidlaw Jr., state apiarist, Montgomery, Alabama.

• • •

The Louisiana Beekeepers' Association will hold its annual meeting at Louisiana State University, Baton Rouge, Sept. 2 and 3, 1942. A cordial invitation to all.—Wm. C Roberts, Sec. Treas.

• • •

Alvin E. Roop, Sr. of Rhodes, Michigan, one of the state's oldest beekeepers, passed on July 16 at the age of 78 years. Mr. Roop's father, Hiram Roop, started beekeeping at Carson City, Michigan, in 1854, about the time Langstroth invented the movable and hanging frame hive. The grandson, Alvin E. Roop, Jr., will carry on the splendid tradition established by his predecessors.

• • •

Repairing the schoolhouse at Cottonwood Falls, Kas., has solved the sugar problem for board members of Rural District No. 29. They found a corner of the building filled with bees—and 400 pounds of honey.—Paul J. Pirmann, Fulton, Mo.

• • •

James Monroe Alford, of McCrory, Ark., 85 years old, one of the oldest beekeepers in Arkansas, died July 15 in a Little Rock, Ark., hospital. Mr. Alford received several hives of bees as a wedding gift. From this small start, he became one of the leading apiarists in the state.

• • •

The radio presentations over WOI, 640, Ames, Iowa, on beekeeping will be given beginning September 14, at 10:45 a.m. instead of the time which has been employed in years past at 6:45 a.m.—F. B. Paddock, Extension Apiarist, Ames. Iowa.

• • •

The Middlesex County Beekeepers' Association will have its last outdoor meeting for this year on Saturday, September 26, at 2 P. M. at the residence of Mr. and Mrs. Ellis F. Colgate, Concord Road, and Billerica, Massachusetts. Mr. R. E. Newell, of Holliston, will speak on "Preparing the Bees for Winter". Bring your plates, cups, and spoons with your basket suppers because Mr. Frederick Russell of Chelmsford is growing some sweet corn for this special occasion and there will be some nice honey to pour on the ice cream. Hives will be opened and questions answered.—A. M. Southwick, Pres.

• • •

"Nectar Uurationed" is the title of a fine article on bees, by Ruth Carson in the July 25th issue of Collier's Magazine. The enlarged cut in color showing the hairs on a worker bee and the gathered pollen in the pollen baskets is not only true to life, but a work of art. Nothing finer has appeared in all literature. The photo was by Larry Monahan. The article itself describing a hobby "to supplement your rationed sugar" and how the bee increases our legume and fruit crop is peculiarly timely.

• • •

Packers Recommend that Honey be Released from GMPR.

"The Committee appointed at Chicago consisting of Walter Straub, Barney Remer and John H. Paton met in Washington on July 8 with War Production Board, Office of Price Administration and Department of Agriculture to discuss the problems confronting the industry.

"The Committee made a formal recommendation that honey be released entirely from The General Maximum Price Regulation and that the industry be permitted an opportunity to show its ability to merchandise the product at a fair price consistent with the views of the Administration and it has been supported in this recommendation by Government Agencies.

"Therefore, as a result of this, a study of the industry has been in progress for several weeks and OPA has called for certain records from various individuals and concerns throughout the country, same to be presented in Washington, Monday, Aug. 10. We have been informed that shortly thereafter a decision will be released, whereby if honey is not entirely released from the General Maximum Price, we think that relief will be given." See Editorial, page 544.—Ed.

OHIO-MICHIGAN MEETING

(Continued from page 560)

Indiana, Georgia, Chatham, Ont., Canada, and far away Louisiana, in the person of E. C. Bessonet, Donaldsonville, La., former President of the Southern Conference.

A very interesting and informative discussion was held on the question of price ceiling and the restrictive order on honey, M-118. It was fortunate that both Mr. Hambleton and Mr. Clay, representing the Government, came and at the proper time they explained how the Government was trying to cooperate with the best interests of the beekeeping industry at large; how it came about that price ceilings varied in the same locality and why there was the restrictive order, M-118.

Whatever misgivings anyone may have had on the wisdom of either one of the Orders, it was evident that everyone felt that the government had been and was acting for the best interests of the beekeeper. The men from Washington explained that honey might be classed as an agricultural product, and such would be free from any ceilings until such time as the price might go too high when Uncle Sam might put on a ceiling to prevent the disaster that followed the First War. See Resolution opposite.

On page 532 of this issue will be found a brief of what Mr. Hambleton and Mr. Clay had to say at this meeting, and we suggest that every reader give it his most careful scrutiny. It explains why this restrictive order was necessary to protect the interests of the honey producers as well as all others who are selling honey.

The pictures on page 561 with the briefs of what each had to say will show that other subjects were discussed.

For the banquet on the evening of the first day, 169 tickets were sold. After all seats had been taken some 10 or 12 persons came in but we were unable to accommodate them. Following the banquet was an illustrated talk by H. H. Root, presenting some of the finest colored pictures showing pollination of many different flowers. The pictures were in full color, each bee shown about a foot in length on the screen. Some stated this was the best film showing pollination ever presented.

Preceding these pictures was a talk by Jere Fraser, of the G. B. Lewis Co., on "Bad Habits of Beekeepers," which as usual was a take-off on some of the good and bad things in beekeeping, and on beekeepers who mean well but do very badly.

The following resolution was unanimously adopted:

Resolution on Honey Price Ceiling Passed by Beekeepers at Medina, Ohio Meeting August 7, 1942

Whereas, the market for extracted honey is in a very chaotic condition because of the very wide ceilings in March of different beekeepers, packers, wholesalers, and retailers of honey in various parts of the country; and

Whereas, only the prompt removal of extracted honey from price ceiling restrictions will relieve this chaotic condition and will make possible the early sale of the 1942 crop of extracted honey at levels generally profitable to beekeepers; and

Whereas, honey is produced in practically every county of the United States and hundreds of thousands of beekeepers, relatively few of whom are businessmen, sell their own honey, of many types and grades; and

Whereas, at a meeting on beeswax ceilings held by the Office of Price Administration at New York on August 1 it was announced by an OPA attorney that Mr. McLaughlin, of the OPA legal staff, had stated that honey, as well as beeswax, was pro tanto to be considered a non-agricultural product and thus by inference exempt from announced ceiling provisions; and

Whereas, removing honey from the provisions of the General Maximum Price Regulation would not affect the marketing of any other product; and

Whereas, the price of honey with the ceiling removed should not get out of hand so long as Preference Order M-118 revised of the War Production Board remains in existence. Now, therefore, be it

Resolved by a joint meeting of Michigan, Ohio,, and Pennsylvania beekeepers assembled this 7th day of August, 1942, at Medina, Ohio, that we are in full accord with this OPA decision and agree that for the present extracted honey should be completely withdrawn from ceiling restrictions and subject only to the normal laws of supply and demand as tempered by W. P. B. Order M-118;

Resolved, further, that we are in sympathy with the studies of the Office of Price Administration that may later result in suitable formulas for reasonable differentiations between price levels of beekeepers, packers, wholesalers, and retailers; and

Resolved, further, that copies of this resolution be sent to the Office of Price Administration, the War Production Board, and the Office of Agricultural War Relations at Washington, D C.

Signed:

Floyd Markham, for Michigan beekeepers
E. W. Long, for Ohio beekeepers
E. B. Everitt, for Pennsylvania beekeepers

See editorial page 544.

YOUR COPY MAY BE LATE

Because of lack of help in our printing office, due to the war, we have been unable to get this copy out on schedule.

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate 8 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 10th of month preceding.

HONEY FOR SALE

CLOVER EXTRACTED in new sixties. H. G. Quirin, Bellevue, Ohio.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

NORTHERN MICHIGAN clover honey in new 60's. C. J. Freeman, Mesick, Mich.

FANCY IOWA white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

CHOICE MICHIGAN white clover honey in 60's. L. S. Griggs & Son, 711 Avon St., Flint, Mich.

WILL HAVE more tupelo honey May 20th. Marks Tupelo Honey Co., Appalachicola, Florida.

NEW CLOVER COMB—14 to 16 oz., extra nice, $4.25 case of 24. Clarence Engle, Kearneysville, W. Va.

HONEY FOR SALE—Amber honey in 60-lb. cans, 8c per pound. M. E. Ballard, Roxbury, N. Y.

FOR SALE—White clover honey in any container or amount. Angus Carruthers, Syracuse, Rt. 2, N. Y.

WE HAVE SOME GOOD clover extracted honey ready for shipping now. Crowther's Apiaries, Cass City, Mich.

COMPLETE line comb and bottled honey, pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, O.

HONEY FOR SALE—We buy and sell all kinds, any quantity. H. & S. Honey & Wax Co., Inc , 265-267 Greenwich St., New York.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Co., 1360 Produce St., Los Angeles, Calif.

FANCY WHITE comb honey, $5 case; No. 1 clover or buckwheat, $4.; amber, $3.75; white clover extracted, 14c; amber or buckwheat, 12c. C. B. Howard, Geneva, N. Y.

OF COURSE you want the best. That is what you get when you buy TOWNSEND'S Michigan clover honey. Now ready for the market. E. D. Townsend & Sons, Northstar, Michigan.

NEW YORK State comb and extracted honey; buckwheat and clover; any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

FOR SALE

BEST BEE HUNTING OUTFIT.—Grover, Bristol, Vermont.

QUEENBEE PAINTING outfits, $1.00 postpaid. Southwick Apiaries, Waban, Mass.

200 eight and ten frame comb honey supers at half price. M. E. Ballard, Roxbury, N. Y.

TAKE OFF honey with BEEGONE—pint, express paid, $1 00. Honey House, Adrian, Michigan.

THIRTY YEARS file of Gleanings, 1911 through 1941. Make offer. D. W. Howell, Shellman, Georgia.

WAX WORKED into quality medium brood foundation for 16c per pound; 100 pounds, $12. Fred Peterson, Alden, Iowa.

FOR SALE—Root 4-frame power automatic reversible extractor in good condition, $32.50, freight paid. Delmar Bunn, Powell, Wyo.

FOUR ONE-FRAME observation hives, complete, in shipping cases, like new, $3.00 each. Lose Bros., 206 E. Jefferson Street, Louisville, Ky.

COMB FOUNDATION at money-saving prices. Plain, wired and thin sections. Wax worked at lowest rates. Comb and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

WRITE FOR CATALOG. Quality bee supplies at factory store prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Bee Supplies, Onsted, Michigan.

THE ONLY complete line of wax rendering equipment ever offered—the "Perfection" Line. A size and type suitable for every commercial beekeeper. Write for descriptive circular. Robinson's Wax Works, Mayville, N. Y.

SAVE MONEY by letting us work your wax into wired or regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices, as we have no agents. Walter Kelley Co., Paducah, Kentucky.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We will not guarantee any honey buyer's financial responsibility, and advise all beekeepers to sell for cash only, or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

CASH PAID for carloads and less than carloads of extracted honey. Send sample and best price. C. W. Aeppler Company, Oconomowoc, Wisconsin.

WANTED— White and amber honey; any amounts. D. F. Treap, 317 Keenan Ave., Cuyahoga Falls, Ohio.

WANTED — 10,000 pounds white sweet clover honey, also light amber mesquite, or mixed grades. State prices, delivered in 60's. Bee-Kist Products Co., P. O. Box 1158, San Antonio, Texas.

WANTED—White and light amber honey. Advise price your place not boxed. Roscoe F. Wixson, Dundee, N. Y.

WANTED—Honey and beeswax Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White clover honey. Extracted, comb and chunk comb, any amount. Lose Bros , 206 E. Jefferson, Louisville, Ky.

WANTED—Comb, chunk comb, white and light amber extracted honey. Any amount. Central Ohio Apiaries, Millersport, Ohio.

CASH PAID for extracted clover honey. Send sample and best price. Clover Bloom Honey Co., General Delivery, Shrewsbury, Mass.

HIGHEST cash return made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Kentucky.

HONEY. WE PAY HIGHEST PRICES. Strained comb or beeswax. Write for quotations. Seifert & Mann, Since 1887. So. Water Market, Chicago.

WANTED—Extracted honey in ton lots or more. Send samples and quote price delivered here. C. J. Morrison, 1235 Lincoln Way West, South Bend, Ind.

WANTED—White clover and light amber honey. Any amount. Cash at time of delivery. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

HONEY WANTED—Truck or carload lots delivered to Sioux City, Iowa. Write us at Wendell, and submit sample. R. D. BRADSHAW & SONS, Wendell, Idaho.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

CASH PAID for extracted white clover or light amber. Send samples and best price to Honeymoon Products Co., 39 E. Henry St., River Rouge, Michigan.

WANTED—We pay cash top price for clover honey in 60-lb. tins. Any quantity. Send samples and best price Cloverdale Apiaries. F. M. Babcock, Fredonia, N. Y.

WANTED—Five tons shallow frame light chunk comb honey in supers, two carloads light white clover extracted cans, supers returned. Box 3, Gleanings, Medina, Ohio.

WANTED—White and light amber extracted in 60's Also beeswax. Send sample with best CASH price. We carry complete line of Owens-Illinois new "DURA-GLASS" honey containers. Honey and wax accepted in payment. ALEXANDER COMPANY, 819 Reynolds Rd., Rt. 3, Toledo. O.

BEES AND QUEENS FOR SALE

BRIGHT ITALIAN AMERICAN QUEENS, 50c each, any number. D .W. Howell, Shellman, Georgia.

NORTHERN-BRED queens; hardy honey getting Italians, 50 cents each. Shirl Baker, Rodney, Michigan.

REAL PETS—Brown's Stingless Bees—Queens, $1.00 each. Brown's Apiary, Cape May Court House, N. J.

CAUCASIAN "Queens", 60 cents each; 25 or more, 50 cents each. Lewis & Tillery Bee Co., Greenville, Ala.

IMPROVED ITALIAN queens, 50c; from a strain that produced over 600 lbs. of honey per colony. Henry Loehr, Caldwell, Tex.

CASH
Paid
For Honey

Cans and Cases Furnished

Mail Samples and Best Price

C. W. Aeppler Company
Oconomowoc, Wisconsin

WANTED—White and amber extracted honey. Fancy comb, also No. 1 comb honey. Comb honey in shallow extracting frames. Beeswax. We render old comb into wax. Prompt remittance. Write us.
THE FRED W. MUTH CO. • CINCINNATI, O.

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn

We Ship No Bees or Queens After June 1st

for the remainder of the season. That we may have better post office service we are changing our address from Brooklyn, to Castleberry, Ala.

Caucasian Apiaries
Castleberry, Ala.
Home of genuine
Mountain Gray Caucasian Bees

When Writing to Advertisers
Mention Gleanings

Announcing

the purchase of the Alabama Apiaries of David Running. We have now arranged to supply a limited number of queens from this stock from our Georgia headquarters.

If interested in securing these queens, write at once so that we can arrange to supply you.

Queens, small lots, 60c each

Either Running stock or imported strain. Quantity prices on request.

Rossman & Long

Box 133 **Moultrie, Ga.**

Moore's Strain

Away back in 1879 I commenced rearing Italian queens with the object of improvement constantly in view.

By careful selection during all these years I have succeeded in producing a strain of three-banded, leather-colored Italian bees, known as MOORE'S STRAIN OF ITALIANS, which has won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Send for descriptive circular and read reports from those who have tried them.

Untested queens, 50 cents each.

J. P. MOORE, R. 3

Falmouth, Ky.

Former address, Morgan, Ky.

Safe arrival and satisfaction guaranteed.

HOMAN'S

3-Banded Italian Queens

Tested Queens, each $1.50
Mated Queens, each $0.50
HOMAN BROS, Shannon, Miss.

CHOICE bright Italian queens, northern bred for gentleness and hustlers, 75c each; dozen, $8.00. Emil Gutekunst, Colden, N. Y.

FOR SALE — Bright yellow and three-banded queens. Guaranteed satisfaction. Write for prices. Graydon Bros., Rt. 2, Greenville, Ala.

FOR SALE—14 colonies with deep 70 supers guaranteed disease free, and other equipment, tank, extractor, Berrian Co., Harbert, Michigan.

CAUCASIAN BREEDERS ONLY—Laying queens, 75c; tested, $2.00; 2-lb. package and queen, $2.30; 3 lbs., $3.00. Miller Bros., R. D. 1, Three Rivers, Texas.

GOLDEN QUEENS—Excellent quality; gentle, productive; health certificate. Satisfaction guaranteed; 50c. O. E. Brown, Rt. 1, Asheboro, North Carolina.

THREE-BANDED ITALIANS—Our Hustler strain gets the honey. Select untested queens, 60c each for balance of the season. Caney Valley Apiaries, Bay City, Texas.

GOLDEN Italian queens; good workers, and gentle to work with; untested, 50 cents each, and tested, $1.00. Satisfaction guaranteed. Carolina Bee Company, W. O. Curtis, Mgr., Graham, No. Car.

FOR SALE—200 colonies in single or double or three-stories, as preferred. A lot of fine equipment. Ill health, and an operation ahead is reason for selling. Bees are guaranteed free from disease. N. B. Querin, Bellevue, Ohio.

FALL REQUEENING, northern-bred Italian queens, good honey-getters, winter well, handle easily, not much inclined to swarm. Safe arrival, return mail. One, 75c; more, 60c. I. F. Miller, 183 Valley St., Brookville, Pa.

EXTRA YELLOW Italian queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested, 50c each; health certificate and satisfaction. Hazel V. Bonkemeyer, Rt. 2, Randleman, N. C.

THREE-BANDED Italian bees and queens of extra fine quality; also extra fine honey-gatherers, 2-lb. package with queen, $2.00 each; 3-lb. package with queen, $2.50 each. Untested queens, 50c each, any number. A health certificate with every shipment. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, No. Car.

FOR SALE—160 colonies of Italian bees, guaranteed free from disease, 10-frame hives with all equipment. Power extractor with large honey house on paved road 7 miles from Ottawa City. All conveniences, including ¼ acre of land. Bees in two yards. On opening for store or roadside stand. Apply H. G. Stalker, Cyrville, Ontario, Canada.

HELP WANTED

WANTED—Experienced man in queen, package, and honey production. Year around work. Give full particulars when replying. Al Winn, Rt. 1, Petaluma, Calif.

MAGAZINES

READ the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, P. O. Box 43, Cleveland, Johannesburg, S. Africa.

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free. Yearly 7c6d. Apply Editor, Indian Bee Journal, Jeolikote, Dist., Nainital, U. P., India.

A BEE JOURNAL edited and published for Western Beekeepers. One dollar per year. Clubbed with Gleaning for $1.75 per year. Western Honey Bee, 3905 Lemon St., Riverside, California.

WESTERN CANADA BEEKEEPER, official organ of the Manitoba Beekeepers' Association, one year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $1.60. Wallingford Building, Winnipeg, Canada.

MANY BEEKEEPERS have proven raising fox, mink, nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine telling how. Fur Trade Journal of Canada, Box 31, Toronto, 2, Ontario.

THE BEE WORLD—The leading journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free, 12 cents stamps. Membership in the Club, including a subscription to the paper 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England

DON'T "FUSS" WITH FRAMES

THIS BUTTON SPACES THIS SHORT TOP BAR

NO STAPLE REQUIRED

For a Limited Time Trial Package of 40 (ONE DOLLAR). Post Paid U. S. A.

A. E. HASSELBACH

R. 3. UTICA, MICHIGAN

When Writing to Advertisers Mention Gleanings

Summer Prices

3-banded Italian

QUEENS

Any quantity 50c net

The PUETT COMPANY

HAHIRA, GA.

REQUEENING PAYS

PREPARE NOW for a good season next year with a young queen and sixty pounds of honey for each colony.

HOLLOPETER'S Italian queens at their best in August and September. Hardy, northern bred, cost more to produce, worth more. Prolific layers, bees easy to handle, with us little inclined to swarm, and good honey storers.

By return mail, untested queens, 1-9, 75c each; 10-24, 70c; 25-100, 60c; young tested, $1 50; breeder, $5.00 Safe arrival of disease free stock guaranteed.

WHITE PINE BEE FARMS

ROCKTON, L. B. 80, PA.

Mack's Queens

(They Speak for Themselves)

We are approaching the last lapse in beekeeping for this season and we hope each of you have received a good crop. If not, September is not too late to head your colonies with Mack's queens, the best reared queens in America. Don't expect a 10-frame hive to hold them. They are bred to produce the maximum crops. Fully guaranteed, only 60c each.

HERMAN McCONNELL

(The Bee and Honey Man)

Route 2 Robinson, Illinois

Resistant QUEENS Progeny-Test

Fall requeening will pay dividends next year. There is a definite place for both stocks.

Prices: 1-24 .... 60c 25-49 .... 55c 50 or more, 50c

BESSONET BEE CO., Donaldsonville, La.

Add 10c per queen for stock bred for RESISTANCE.

CONTAINERS

Carloads In Stock

Hazel Atlas Glass

Glass Pails—20 oz., 2½ lb., 5 lb.
Square Pantry Jars—20 oz., 44 oz.
Modernistic Jars—8 oz., 16 oz., 32 oz.
Bee Hive Jars—8 oz., 16 oz., 32 oz.
Economy Jars—8 oz., 16 oz., 20 oz., 32 oz., 44 oz.
Honey Servers

Continental Tin

5-Gal. Square Cans—bulk or cased.
5 and 10 lb. Friction Top Pails.

Comb Honey Pack

Window and Regular Cartons
Plain and Decorated Cellophane
Wood and Corrugated Cases.

Write for Current Prices

The A. I. ROOT Co. of IOWA
COUNCIL BLUFFS, IOWA

ATTENTION BEEKEEPERS!

of

OHIO, INDIANA and MICHIGAN

We have a proposition that will interest you regarding the marketing of your 1942 Honey crop. Write us for details if you have from 100 lb. to a carload.

• • •

SIOUX HONEY ASSOCIATION

Box 216, Lima, Ohio

CANADIAN QUEENS

Choice Italian Queens, fresh from our own yards here at Troy, Ont. Untested, 75c each; Tested, $1.

Also Bees and Bee Supplies

LORNE SHELLY, Troy, Ont., Can.

Select Northern - bred Italian Queens, prepaid, 70c each. Special price on 50 or more. Backed by 30 years experience. Satisfaction guaranteed.

West Branch Apiaries
Grover Hill, Ohio

St. Romain's "Honey Girl" Italians

Hardy—good honey producers—gentle
2 Lbs. Bees With Young Queen . . . $2.50
Untested (young) Queen, 1 to 3, 75c ea. 4 to 9, 65c ea; 10 or more, 60c ea.

A. D. ST. ROMAINS APIARIES
Moreauville, La.

Bright Three - banded Italian Queens. Begin now. Requeen with our improved stock, and you can divide your colonies next spring, and save on package buying.
1 to 50, 60c each; 50 up, 50c each.

Taylor Apiaries **Luverne, Ala.**

BEEKEEPERS ITEM

Serving the beekeeping industry for a quarter century without bias or prejudice. "The forum for the thoughtful." One year $1.00; two years, $1.50; sample copy, 3c stamp.
With Gleanings it provides a combination that covers the beekeeping field.
Both magazines for one year, $1.75.

BEEKEEPERS ITEM
P. O. Box 687 **San Antonio, Tex.**

Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the
"Australasian Beekeeper"
Subscription 5 shillings per year. Start any time. Inquire for International Money Order for 5 shillings (Australian) at your Post Office.
Write now to The Editor, P. O. Box 20, West Maitland New South Wales Australia

When Writing to Advertisers Mention Gleanings

When Writing to Advertisers Mention Gleanings

MORALE IN THE HONEYBEE COLONY

(Continued from page 529)

tor or factors in the environment have caused these naturally industrious "creatures of instinct" to "go on strike". If he is well versed in bee behavior, he will be able in most cases to discover the offending factor and to modify or eliminate it, thereby improving the colony's morale.

Maximum honey production depends upon high colony morale, which can be maintained only through intelligent management based upon a thorough knowledge of bee behavior. The honey producer with a thorough knowledge of bee behavior usually is in a position to collect good dividends on his investment.

• • •

TALKS TO BEEKEEPERS

(Continued from page 559)

is an important branch of agriculture. Honey is needed today more than ever before. The demand for beeswax is increasing daily. Honeybees are needed more than ever before to pollinate clovers and fruits. An increase in the production of live stock, butter, cheese, etc., such as is urged at present to help feed the hungry millions now engaged in defense work is impossible without enough honeybees to pollinate the blossoms to propagate the clovers to help feed the live stock and especially the cows that produce the butter and cheese. And, so, it behooves each beekeeper to give each colony the best possible care this fall so that there may be the maximum number of colonies on hand next spring. Next year may be a banner season for honey. **Let's keep the bees flying.**

SHAW'S
Three-Banded Italian Queens

For 19 years, this famous strain of Italians has pleased the most exacting honey producer and has made me friends wherever purchased. Try them and make this a profitable season. In addition to the above strain I will be able to supply you with queens from stock bred for resistance to disease.

Colonies averaged 200 lbs. here in Mississippi the past season. And this is no honey state. Prices either strain:

Lots of 1-24 ..... 60c
Lots of 25-99 ..... 55c
Lots of 100-499 ..... 50c

Tested queens, double the price of untested. All queens clipped free upon request.

A. E. SHAW, Shannon, Miss.

Mountain Gray Queens

Book your requirements as early as convenient, as we may not have queens after this month. Prices:

1 to 49, 60c ea.; 50 to 99, 55c ea.

BOLLING BEE CO., Bolling, Ala.

YORK'S PACKAGE BEES and QUEENS
QUALITY BRED ITALIANS

A Great Season, Largest Demand Ever. Thanks to All!

With all fairness we wish to state we sold no bees or queens for less than our regular list price and all were supplied from our own apiaries only. We strived to give you the very best quality possible and comments are bearing this out. Will continue to supply bees and queens for remainder of season. Rush your order for prompt service. Prices as follows:

Young laying queens ..... $ .75 each
2-lb pkgs. bees with queens ..... 2.50 each
3-lb. pkgs. bees with queens ..... 3.20 each

Queens by airmail, add 5c per queen. Queens clipped, 10c each extra.

YORK BEE CO., :: Jesup, Georgia, U. S. A.

The Universal Apiaries

USING THE GOLDEN HARVEST

(Continued from page 537)

granulated yeast, 2 eggs and 5 to 6 cups sifted enriched flour.

Mash potatoes and while still hot stir in shortening and honey. Beat well then add milk and salt. When cooled to lukewarm beat in yeast and 1 cup of flour. Let stand in warm place till light and bubbly. Add well beaten eggs and remaining flour. Knead until smooth and elastic. Let rise until double in bulk. Shape into rolls. Let rise until very light. Bake in moderate oven, 375 degrees F., about 20 minutes.

Honeyed Celery and Carrots

Ten to 12 outer pieces of celery, 6 medium sized carrots, 1 teaspoon salt, 3 tablespoons honey, 2 tablespoons butter.

Dice celery and thinly slice the carrots. Cook in as little water as possible, adding the salt. Cook until tender. Allow water to simmer off gradually. Add honey and butter: Let simmer gently for about 3 minutes.

Honey Oatmeal Cookies

One cup shortening, 1 cup honey, 2 cups quick-cooking oatmeal, 2 eggs, 1 cup sifted enriched flour, 1 cup whole wheat flour, 1 teaspoon salt, 1 teaspoon baking powder, 1/2 teaspoon soda and 1/2 cup ground raisins, optional.

Cream shortening; add the honey and blend well. Stir in oatmeal, beaten eggs and the whole wheat flour. Sift dry ingredients together and add. Mix well. Drop by spoonfuls on greased cookie sheet. Bake in a moderate oven, 350 degrees F., for about 15 minutes.

Honey Apricot Ice cream

Three tablespoons quick-cooking tapioca, 2 cups milk, scalded, 1/2 cup honey, ¼ teaspoon salt, 1 cup apricot puree, or 1 cup canned apricot juice, 2 egg whites, and 1 cup whipping cream.

Cook the tapioca in milk until clear, stirring frequently. Strain through a fine sieve. Add honey, salt, apricot puree and mix thoroughly. Cool. Beat egg whites until stiff but not dry. Fold into tapioca honey mixture. Carefully fold in stiffly whipped cream, Freeze.

Aurora, Nebraska.

TOP ENTRANCES

(Continued from page 522)

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THE ROLE OF BEEKEEPING IN THE PRESENT WAR

(Continued from page 545)

terial already collected by OPA. (But beekeepers felt that data should have been collected from a wider field.

At first it appeared that OPA was not planning to establish a price to beekeepers on the basis of f.o.b. shipping point. Before the meeting was over, however, it became evident that the entire crowd felt that such a price was essential. Discussions were apparently based on a price of 11.4c per lb. to the beekeeper (110% of parity). See Editorial, page 544.

When Writing to Advertisers Mention Gleanings

BETTER-BRED QUEENS Three-banded Italians

50c each. Head all your colonies with our Better Bred Stock. They have proven their good qualities throughout the U. S. A. and Canada.

CALVERT APIARIES, CALVERT, ALABAMA

Honey producers expand production as

NEW FOUND VALUES OF HONEY

are revealed by scientific research !

DETAILS ON

Plan of More Profitable Marketing

MAILED FREE with "Vitamin Content of Honey"

A REPRINT FROM JOURNAL OF NUTRITION

The importance of honey in the diet has been growing rapidly during recent years. This reflects a remarkable change in the attitude of the medical profession and of the public as science reveals hitherto unsuspected values in honey—proving that the traditional values ascribed to honey during Biblical times were based on fact, not mere legend.

Important factors in the current enlightenment on honey are the scientific studies sponsored by the producers of Lake Shore Honey—America's largest selling brand.

W. F. Straub & Company started in a small way in 1929. Later the Lake Shore Brand attracted national attention with the introduction to the grocery field of a remarkably distinctive glass container—the honey comb jar, designed like a honey comb to "say honey in any language."

National advertising followed to create among housewives a demand for branded honey uniform in flavor assured by blending honeys whose flavor sources were known.

This advertising was both educational to the public on honey flavor and on the use of honey. Recipes were given which helped to increase honey consumption which lifted the average per capita above its former level.

Lake Shore honey has been sold through these years at a maintained price—cost of packing plus a reasonable profit. This has helped stabilize an industry in which producers selling below cost have frequently caused price confusion and loss of profit.

In recent years Lake Shore Honey has sponsored University Fellowships in honey research, including studies on vitamin content—experiments in vitamin fortification of honey—studies on infant feeding, etc.

The latest of these studies, a reprint from the June, 1942, issue of the Journal of Nutrition, tells of new discoveries on Vitamin B Complex content of honeys.

This reprint gives the latest findings on this subject and is something that should be in your hands.

A copy will be sent free without obligation. Send for it today.

Now is the opportune time to acquaint millions of consumers with the values of honey and to expand honey consumption rapidly for home use. Your honey marketed through W. F. Straub & Company goes into the home. It helps expand advertising of honey which increases public demand; hence, brings you advantages for the future beyond the price alone—advantages which you do not receive from selling honey for bulk use. Send for the free reprint and the Straub proposition today.

Lake Shore
PURE HONEY
ASK FOR THE HONEYCOMB JAR

LAKE SHORE HONEY, 5520 Northwest Highway, Chicago, Ill.

Send me free copy of booklet, "Vitamin Content of Honey." Check here for information on the Lake Shore Honey contract which pays you full price for your honey and assures increasing and steady market.

I operate .... colonies of bees.

I expect to produce .... lbs. of honey this year. My asking price for honey is now approximately ....c per lb. (This is not binding, merely for survey of prices current in different parts of the country).

Name .....

Address .....

City ..... State .....

3 - Banded Italian Queens

Foulbrood Resistant Queens

Bred in Isolated Yards

Latest Improved A F B Disease Resistant
Queens for September and October Delivery

1 to 24, 60c; 25 to 99, 55c; 100 or more, 50c each

723 C Street **JOHN G. MILLER** **Corpus Christi, Texas**

Thanks Thanks

To our many customers for their patronage this season. We can still furnish you with Queens and Packages

Untested Queens .....$..50
2-lb. Pkg. with Queen .. 1.75
3-lb. Pkg. with Queen .. 2.25

KEEP US IN MIND
for quantity and quality bees and queens in '43. Again, thank you.

NORMAN BROS. APIARIES
Ramer, Alabama

Get READY for 1943

Italians - Caucasians
Queens as good as money can buy 60c each.

Weaver Apiaries

Navasota, Texas

BEE STINGS

Pheno - Isolin instantly stops the pain. A most wonderful discovery for bee stings. Write for information and price.

THE FORCE CO., Scranton, Pa.

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers,—10% to 40% ahead of Italians. Foundation stock from mountainous region of Terek, Caucasus.

CARNIOLANS

Prolific at all times, very gentle, best of workers. One record of 435 lbs. average over whole yard. Build beautifully white combs. My strain used in the recent Iowa Exp. Sta. test showing Carniolans best for western and northern conditions. Have supplied many Agricultural Colleges and Experimental Stations with them. Free Paper. Both races bred here in the North, hardier and thriftier. September is a good time to replace poor and failing queens.

Prices: Untested queens 1 to 5, 60c each 6 or more, 50c each. Tested $1.00 each. By Air Mail, 5c extra per queen.

ALBERT G. HANN
Glen Gardner, New Jersey

When Writing to Advertisers Mention Gleanings

PETTIT'S SUMMER QUEENS

will please you.
They please many others.
50c each, U. S. money, any number
Morley Pettit, Tifton, Georgia
In Canada, send 60c each to cover U. S. Exchange and Duty to
Morley Pettit, Georgetown, Ont.

When Writing to Advertisers Mention Gleanings

Send your cappings and old comb to MUTH for rendering into beeswax. . . .
THE FRED. W. MUTH CO. Pearl and Walnut Cincinnati, Ohio

Facts We Should KNOW

(1) THE AMERICAN HONEY INSTITUTE is in business primarily to develop more consumer interest in honey.

(2) During the first four months of 1942 the INSTITUTE furnished honey information to over 1000 organizations in 48 states, four provinces of Canada, also England and Cuba (not to mention thousands of individuals).

(3) The following are just a few who asked for and received information:

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Red Cross
Nutrition & Canteen Work
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Dairies
Meat Packers
Wholesale Grocers
High Schools
School Lunch Kitchens
Pullman Co.
Civilian Defense Council
Home Maker Clubs
Farm Bureaus
Y. W. C. A.
Cafeterias
Hospitals
Brewing Companies

(Help yourself by helping the **Institute)**

• • •

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American Honey Institute
Madison, Wisconsin

QUEENS QUEENS

CAUCASIAN ITALIAN

FOR INCREASE
FOR REQUEENING
FOR BETTER BEEKEEPING
FOR QUEENLESS COLONIES
FOR ALL OTHER REQUIREMENTS
FOR BEST RESULTS GET STOVER'S

Prices

1 to 24.....$ .60 each
25 to 99..... .55 each
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